

COST ANALYSIS OF THE UNIVERSITY OF WISCONSIN-STOUT
UNCLASSIFIED RECRUITMENT AND SELECTION PROCESS

By

Angela D. LeCompte

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Dr. Richard Tafalla
Investigation Advisor

The Graduate College
University of Wisconsin-Stout
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The Graduate College
University of Wisconsin-Stout
Menomonie, WI 54751

ABSTRACT

	LeCompte	Angela	D.
(Writer)	(Last Name)	(First)	(Initial)
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The purpose of this research was to determine a baseline for the costs of the University of Wisconsin – Stout’s unclassified recruitment and selection process, and to examine the efficacy of these costs in attracting an adequate number of applicants for a search, attracting a diverse applicant pool, and in making a hire from a search. The University of Wisconsin – Stout, Equal Opportunity and Affirmative Action Office manages the recruitment and selection process for unclassified staff in cooperation with search committees. It was requested by the Affirmative Action Officer that a survey be developed to assess the costs associated with each search for the 2001-2002 academic

year. Therefore, an original report request was developed which consisted of questions related to recruitment, interview, testing, credential verification, and relocation costs. The report request was mailed in the summer of 2002 to those UW-Stout department chair persons that conducted searches in the 2001-2002 academic year. A total of 26 report requests out of 39 were returned for a response rate of 67%. Results of this study established a baseline of the average costs associated with the unclassified recruitment and selection process that can be used to compare the average costs of future years. One search was targeted as the most effective search in reaching the goals of the recruitment and selection process, and in the efficiency of the spending of resources. Further results indicated that successful searches seemed to spend more money than unsuccessful searches on recruiting applicants through advertising in publications and professional journals. Of the searches analyzed, the money spent on recruitment techniques did not seem to increase the number of applicants for a search or increase the diversity of a search. This research also indicated that of the searches analyzed a large amount of money was wasted on unsuccessful searches, and that it may be in the best interest of the EOAA to continue to investigate the means of ensuring the success of a search.

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CHAPTER ONE

Statement of Purpose

The purpose of this research is to determine a baseline for the costs of the University of Wisconsin-Stout's unclassified recruitment and selection process, and to examine the efficacy of these costs in 1) attracting an adequate number of applicants for a search, 2) attracting a diverse applicant pool, and 3) in making a hire for a search. Several costs are associated with the unclassified recruitment and selection process, and this study was done to determine how much or how little spending is necessary to predict the success of a search. The results of this research will also allow for a baseline of costs and spending habits to be determined for the recruitment and selection process. This baseline of costs has the potential for use as comparison data for future recruitment and selection cost analyses.

The University of Wisconsin – Stout (UW-Stout), Equal Opportunity and Affirmative Action Office (EOAA) developed and continuously manages the university's current recruitment and selection process for unclassified employees. The goals of this recruitment and selection process are to 1) attract an adequate number of applicants for the search, 2) attract a diverse applicant pool, and 3) to make a hire for the search. It is the duty of the EOAA office to offer guidance to the search committees throughout the recruitment and selection process on what the most effective and efficient techniques are to reach these goals. This means that the EOAA office must provide techniques that will ensure a successful search, and will allow for the efficient spending of university resources. The EOAA Office has three main problems with aiding search committees in reaching the goals of the recruitment and selection process:

1) The EOAA Office is unsure if the current amount of money being spent on recruitment techniques for searches is actually effective in providing an adequate number of applicants for a search.

2) The EOAA Office is unsure if the current amount of money being spent on recruitment techniques for searches is actually effective in providing a diverse applicant pool.

3) The EOAA Office is unsure of how much spending on recruitment and selection techniques will lead to a successful search.

Therefore, the EOAA Office does not have guidelines to offer to search committees as to the most effective and efficient spending practices for reaching the goals of the UW-Stout unclassified recruitment and selection process.

It is thought that through the use of a cost effectiveness analysis of the recruitment and selection process for unclassified searches, a baseline of current recruitment and selection costs may be developed. This baseline would be used to determine what the most effective spending practices are in reaching the goals of UW-Stout's unclassified recruitment and selection process. And with the knowledge of the most effective techniques, the EOAA office would be able to provide helpful guidelines to the search and screen committees on how to most effectively use their resources to conduct a search.

CHAPTER TWO

Introduction

Every process or procedure associated with an organization's operation has both a cost and an outcome (Thaler-Carter, 1997). The outcome of the process refers to the result of that process, whether the result positively or negatively impacts the organization. The cost of the process is the value of all of the organization's resources the process utilizes to reach an outcome (Levin, 1983). It is the hope of an organization that the process that they are assigning valuable resources to is one that will prove favorable to the organization financially and in reaching their goals. The knowledge of whether a process is actually beneficial to an organization is important because every process in an organization uses resources that have the potential to be utilized for other valued alternatives to the process in place (Gordon, 1986). If these resources are being used in one way, they cannot be used in some other way that may provide more useful outcomes. In this sense, all of the costs of a process represent the sacrifice of an opportunity that may provide a more valuable and effective outcome.

In order for an organization to stay competitive by making informed decisions about which processes are the most effective and efficient for their operation, it must consider the costs of the processes and the effects of these costs on the outcome (Martinez, 2002; Levin, 1983). A choice can be made among alternative processes by tracking and analyzing the costs and outcomes for each potential process, so that an organization can then choose the process that has both the lowest cost in terms of their resources and the most benefit in terms of their goals (Gordon, 1986). When the most beneficial process has been targeted through the analysis of costs, an organization can

then either replace or restructure the process that is currently in place to fit the elements of the better process. And, continuing to analyze the costs of the new or restructured process may help an organization to maintain the effectiveness and efficiency of the process by having a better understanding of the process's costs (Cascio, 1998). A better understanding of the costs of a process may lead to better control of resources for that process thereby leading to the improvement of the process results without having to increase costs (Scarpello and Ledvinka, 1988).

Accessing Recruitment and Selection Process Costs. Specifically, the costs involved in a recruitment and selection process represent a significant portion (some at almost 30%) of an organization's operational expenditures (Davison, 2001; Thaler-Carter, 1997). Being that the recruiting and selecting of employees uses such a large portion of organizational resources, it is essential to prove that the process in place for these tasks is both valuable and efficient in helping to fulfilling organizational goals (Thaler-Carter, 1997). It is suggested by Cascio, 1998, that the recruitment and selection process of an organization is never fully developed until the costs of alternative strategies have been compared to the current process. The analysis of recruitment and selection costs facilitates effective planning for either the continuation of recruitment and selection processes, or their potential restructuring (Cascio, 1998).

It is common for an organization to use a technique of cost analysis in order to access the costs of their recruitment and selection process. The methods of cost analysis commonly used include: a measure of cost-per-hire, cost benefit analysis, cost effectiveness analysis, and a measure of staffing-cost ratio. The results of using any of these techniques will allow for a baseline of metrics to be formulated. This baseline can

then be used as a benchmark and/or a measure of effectiveness of the recruitment and selection process depending on the technique used (Gordon, 1986). Using these methods to access costs of the recruitment and selection process provides an organization with a “better common indicator of the productivity and/or success of the recruiting and selecting effort” (Thaler-Carter, 1997).

The cost analysis techniques of cost-per-hire and staffing-cost-ratio are similar in nature. Both techniques access the dollar costs of the recruitment and selection process using a survey and/or by interviewing the key people who handle the costs of the recruitment and selection process of an organization (Martinez, 2002; Thaler-Carter, 1997). Both techniques also use formulas that require the addition all of the recruitment and selection costs in order to come to a “total cost” of resources (Martinez, 2002; Thaler-Carter, 1997). But, in the formula for cost-per-hire one must divide the “total cost” of the recruitment and selection process by the number of hires made in order to derive a specific cost that constitutes a hire using a particular recruitment and selection process (Thaler-Carter, 1997). Whereas, the formula for staffing-cost-ratio involves dividing the “total cost” of the recruitment and selection process by the total dollar amount of compensation offered to those hired to derive a ratio representing the cost of the process (Martinez, 2002).

Cost-per-hire and staffing-cost-ratio simply provide one measure which represents the cost of an entire recruitment and selection process. The multiple outcomes or results of a recruitment and selection process are not considered in this measure, and there is no basis of comparison for multiple outcomes using these techniques (Martinez, 2002). All that the measure provides is the basis for the comparison of how cost compares to

number of people hired. If an organization is only interested in comparing alternative recruitment and selection processes on their cost based on their number of hires, then cost-per-hire and staffing-cost-ratio are equal in their applicability for this purpose (Martinez, 2002).

Both cost effectiveness analysis and cost benefit analysis are also similar in procedure. These techniques also access the dollar costs of the recruitment and selection process using either a survey and/or by interviewing the key people who handle the costs of the recruitment and selection process (Scarpello and Ledvinka, 1988; Gordon 1986; Levin, 1983). But, taking cost analysis a step further, these techniques also access and value the outcomes of a process so that a comparison of effectiveness or benefit can be made with costs (Levin, 1983). Specifically, cost effectiveness analysis puts a dollar value on resources associated with a process, and compares this value with outcomes that can have measures different that dollar value (i.e. number of applicants, number of interviews, number of hires, etc.) (Levin, 1983). Whereas, cost benefit analysis evaluates a process according to a comparison of the dollar amount of resources and the derived dollar amount of outcomes and/or benefits of that process (Gordon, 1986). So, for cost benefit analysis one must convert the outcomes of a process into pecuniary measures.

Converting outcomes/results into pecuniary measures may prove difficult in a recruitment and selection process, and it may not be possible to do so in a systematic and rigorous manner (Gordon, 1986; Levin, 1983). Therefore, it is suggested that cost benefit analysis only be used under special circumstances in which all outcomes can be converted to dollar amounts systematically, and in which an investigator that is

“seasoned” in conducting cost benefit analyses is used to access a process (Gordon, 1986; Levin, 1983).

Cost effectiveness analysis on the other hand is considered to be easy to use in evaluating the costs of a recruitment and selection process (Levin, 1983). It simply requires combining cost data with effectiveness data that are ordinarily available to an investigator and are relatively easy to gather. Furthermore, cost effectiveness analysis allows for the evaluation of outcomes or results that may be based on specific goals of an organization’s recruitment and selection process. Having the evaluations based on the comparison of costs and the achieving of specific goals makes the results of the analysis more understandable for an organization (Levin, 1983).

Using at least one of these cost analysis techniques in order to access the costs and/or effectiveness of the recruitment and selection process may allow an organization to ensure that their process is valuable in achieving its set goals for success. When expenditures by source are analyzed carefully, the procedures of a process that are beneficial may be kept, and the ones that are problematic may be removed or restructured (Cascio, 1998). And, the metrics that serve as the basis of evaluation through these techniques are important because such measures provide accurate and understandable data that may be presented to members of the organization in order to back up decisions concerning their recruitment and selection process (Thaler-Carter, 1997).

The UW-Stout Recruitment and Selection Process. The UW-Stout unclassified recruitment and selection process is maintained by the Equal Opportunity and Affirmative Action Office (EOAA). The EOAA Office oversees the recruitment and selection of university faculty and academic staff positions. The EOAA Office’s

responsibility in overseeing this process involves: 1) Developing, maintaining, and monitoring the steps of the recruitment and selection process, 2) Offering advice to search committees on how to best recruit for a position to ensure a diverse and qualified applicant pool, 3) Reviewing and approving selection tools for telephone and campus interviews to ensure they are legal and offer equal opportunity to qualified applicants, and 4) Maintaining all paperwork associated with the hiring of an unclassified employee (EOAA, 2001).

The EOAA office is familiar with the fact that “the costs associated with the recruitment and selection process of an organization represent a significant portion of human resource expenditures” (Thaler-Carter, 1997). And, that money put into the recruitment and selection process should be efficient in relation to the organization’s bottom line, and effective in hiring quality employees for the organization (Martinez, 2002). Therefore, the UW-Stout Affirmative Action Officer believes that it important to target and track the costs of the recruitment and selection process in order to account for these expenditures in their efficiency and effectiveness of fulfilling the set goals of the unclassified recruitment and selection process.

The actual “recruitment” and “selection” of applicants for faculty or academic staff positions is conducted by what is called a search committee. The committees are called “search” committees because each open position constitutes a new “search” for an employee. So a new search committee is formed for each new faculty or academic staff position that becomes available for hiring someone. Search committees are formed by the department chair person of the department that is looking to fill a position. Search committees can be made up of faculty and academic staff currently employed by UW-

Stout, and also UW-Stout administrators. These search committees make decisions such as what qualifications the open position requires, how and where they will be recruiting for an open position (such as advertising, networking, attending job fairs, etc.), and how much money they will be spending on the recruitment and selection process. The search committees also review all applicant resumes, conduct telephone and campus interviews, conduct hiring negotiations, and call on references for the particular “search” they are conducting.

The search committees receive a handbook entitled “Equal Opportunity Recruitment and Hiring Procedures” from the EOAA office upon beginning their search for an open position. This handbook specifically explains the procedures that the search committee should follow for their search. It also outlines the goals of the recruitment and selection process. These goals are to: 1) have a diverse applicant pool, 2) have an adequate number of total applicants, and 3) make a successful hire for the position. (Technically, the EOAA office terms a “successful search” as one that has made a hire, and an “unsuccessful search” as one that has not made a hire.)

All of the money involved in the actual process of recruiting and selecting a person for a position comes from the department’s budget that is conducting the search. The search committees look to the EOAA office to aid them in deciding how to most effectively use their financial resources in order to attain success in achieving the goals of the recruitment and selection process. Specifically, the search committees would like to know how much money to spend on recruitment techniques in order to attain an adequate and diverse applicant pool that will potentially lead to a successful hire for their search. Other areas of the process that search committees would like to have a cost baseline for

include: telephone interviews, campus interviews, candidate testing, credential verification, and relocation.

Cost-Effectiveness Analysis. Cost effectiveness analysis is a technique that may be used by an organization to track the costs and outcomes of alternative processes. Cost effectiveness analysis refers to the evaluation of alternatives according to both their costs and their effects with regard to producing some outcome or set of outcomes (Levin, 1983). If costs can be combined with measures of effectiveness, and all alternatives of a process can be evaluated according to their costs and their contribution to meeting the same effectiveness criterion, then cost effectiveness analysis can be used to target the most beneficial process for an organization (Levin, 1983).

When using cost effectiveness analysis to track the costs and outcomes of alternative processes it is assumed that the processes have similar goals in relation to an outcome (Mark, 2002). This means that an organization may use cost effectiveness analysis to track the costs and outcomes of alternative recruitment and selection processes, because most recruitment and selection processes have similar goals of attracting quality applicants and making a successful hire for little money. But, it would not be useful for an organization to use a cost effectiveness analysis to compare the costs and outcomes of alternative recruitment and selection processes and product manufacturing processes because these processes are not related by common goals.

When using cost effectiveness analysis the goals for a process are considered to be the process's measures of effectiveness (Gordon, 1986). The same measures of effectiveness are to be taken for each alternative to the process in order for an accurate comparison to be made between each process on how it attains the specified goals. The

differing amounts of costs and values of alternative processes can affect the measures of effectiveness for those processes. It is the job of cost effectiveness analysis to pinpoint which alternative process has the highest effectiveness measures for the least cost.

Effectiveness measures for a process may be in relation to units produced, money lost/gained, time increased/decreased, etc. (Levin, 1983). It is important to remember that an effectiveness measure must be clearly defined and attainable in order for that measure to be able to be used to judge many processes (Mark, 2002).

The actual process of conducting a cost effectiveness analysis may be broken down into seven steps: 1) Identify the Effectiveness Measures; 2) Identify the Ingredients; 3) Specification of the Ingredients; 4) Determine the value of the ingredients; 5) Analyze values and outcomes (Levin, 1983). The first step, identifying the effectiveness measures, involves determining what an organization is trying to accomplish by using a process. In order to figure out what an organization wants from a process the process in place (if there is one) must be reviewed, alternative processes must be reviewed, and management must be consulted to narrow down precisely what is most desired. It is only after this full review that specific goals can be made and understood. These goals will serve as the determination of whether an outcome can be deemed effective or ineffective according to a goal, and at what comparison this is so with other outcomes.

Step 2, identifying the ingredients, is where the process in place and the alternative processes that it is being compared to are broken down into parts so that all of the resources (ingredients) of cost or value (whether it be money, time, energy, etc.) of a process may be identified. Essentially an organization must target all of the resources of

the process that it takes to produce an observable outcome. In order to determine the ingredients, it is necessary for the organization, or the investigator, to become familiar with each alternative that will be evaluated. Familiarity of processes may be obtained by reviewing the process itself if it is written down, reviewing reports of the process, and discussing the process with the professionals who are responsible for its implementation. It is important to target the specific ingredients for each alternative process so that a true sense of the cost of that alternative process may be known, and not just an understanding of the costs of the general process.

In step 3, the specification of ingredients, the resources that were targeted in the previous step are now to be divided into categories that have common properties. For example, all of those resources that are related to personnel resources would be grouped accordingly under one heading or section, as would those resources dealing with equipment and materials, facilities, client costs, etc. There is no general rule to category set up, but ingredients should be specified in sufficient detail, and it must be certain that their value can be obtained and measured. Also, the categories for into which ingredients are placed should be consistent across all other processes being evaluated to ensure an accurate comparison among alternatives.

Step 4 is where the investigator determines the value of the ingredients and the outcomes of the process. This can be done in many ways. The investigator may decide to track down costs and values by going through past reports that have information related to process values. Or, the investigator may meet with the professionals who implement the process and ask for their information or input to determine costs and outcomes. Or, the investigator may send out a survey to be completed by professionals

who implement the process. In some cases all of these techniques may be used to gather information on values. At any rate, the values and outcomes must be determined, and they must be accurate for a true comparison of alternative processes to be made.

Many organizations question why they cannot just use a budget to determine the values and outcomes of processes as opposed to following the steps of the cost effectiveness analysis technique (Levin, 1983; ETC). The answer according to Henry Levin (1983) is that “organizations should not assume that budgets contain all of the cost information that is needed to make decisions in reference to effectiveness.” Standard budget practices may distort the true costs of ingredients, in that other processes not related the process being measured may be imbedded in the budget being used. Also, budgets may not even include all of the ingredients that are part of a process being evaluated. If an investigator were to rely on such a budget, the value of the process would be incomplete. Therefore, an investigator would not be able to accurately determine how the costs of a process affect the effectiveness of the process.

Step 5 is the analysis of the outcomes and the costs for each process. The values of each category are added together, and a total value of all categories is determined. The value of a process is then linked with its effectiveness measurements. When all processes have been evaluated in this way, it is possible to compare the processes to each other on how cost affects the outcome of each process. It is also possible to compare how the value of each ingredients category impacts the different effectiveness measurements. These comparisons can be made through the use of statistical analysis. The analysis and comparison of each process will lead the investigator to the most beneficial process for

the organization in relation to the cost of the process and ability of the process in reaching the effectiveness measures.

These steps are offered by Henry M. Levin (1983), and are to be considered as guidelines to the use and implementation of cost effectiveness analysis. The use of cost effectiveness analysis has been made by many organizations and in many different industries to aid in the understanding of how the cost of operational processes affects outcomes. Each organization must adapt the steps outlined in the previous paragraphs, to fit their own organizational needs.

Using Cost Effectiveness Analysis. Both private organizations and human resource consulting firms have used cost effectiveness analysis to determine the best procedural components and spending practices for their recruitment and selection processes. For example, Humana, Incorporated, a health care company in Louisville, Kentucky, hired an investigator, Reginald Barefield who is the executive director of resources and technology at Lucent Technologies, to evaluate their recruitment process (Anfuso, 1999). At the time that the investigator came to the company, Humana, Inc. had “110 recruiters and 110 different versions of how to recruit” (Anfuso, 1999). Humana, Inc. wanted to know which method currently being used by these recruiters was the least costly and provided the most quality applicants for their organization.

Humana’s effectiveness measures for their recruitment and selection process were to attract a high number of quality applicants, have a short amount of time between recruitment and selection of applicants, and a low rate of turnover from recently hired candidates (Anfuso, 1999). After Barefield determined the ingredients of Humana Inc.’s recruitment processes, he then used the technique of reviewing recruitment reports,

invoices, memos, office budgets, etc. to determine the value of those ingredients and the outcomes of the processes (Anfuso, 1999). Some of the ingredients, or values, that were a part of Humana's recruitment and selection process were: advertising costs (internet, newspaper, and trade journals), job fair costs, recruiter salaries, administrative costs, and interview costs (Anfuso, 1999).

Barefield's analysis of the processes led him to the decision that many of the alternative recruitment processes had parts to them that caused high measures of effectiveness and were low in cost. He found that Humana's recruiters were taking cost effective steps towards attracting and hiring applicants, but there were just too many of these recruiters to have an overall efficient process (Anfuso, 1999). Barefield decided to reduce the number of recruiters, and to create an internal staffing agency with specific procedures for recruiting and selecting applicants (Anfuso, 1999). He took the most efficient and effective parts of the previous processes and structured one recruitment process for Humana, Inc. that both saved them money and fulfilled their goals. At the start of this investigation, Humana, Inc. spent approximately \$23 million to fill 3,100 positions (Anfuso, 1999). After the cost analysis and the first year of using the restructured recruitment process, Humana, Inc. reduced its recruitment costs to \$10.8 million and filled 5,500 positions (Anfuso, 1999).

The Employment Management Association (EMA) has been conducting annual cost per hire surveys since 1983 (Cluff, 2000). The survey developed by the EMA serves as the basis for the cost effectiveness analysis of the recruitment and selection processes of the corporations, or members, that the EMA serves (Cluff, 2000). Each corporation uses the survey to access the costs associated with their recruitment and selection process,

and compares their total costs and outcomes with costs and outcomes gathered from surveys from previous years. By comparing the recruitment and selection costs from each year, corporations are able to target indicators of productivity in their recruiting efforts, and therefore adapt their recruitment and selection process to incorporate the procedures that are most effective for their organization (Thaler-Carter, 1997).

Specifically, the EMA cost survey takes into account all of the costs that may be a part of an organization's recruitment and selection process (Cluff, 2000; Thaler-Carter, 1997). These costs are categorized according to internal company costs (in-house recruiter salaries and benefits, staff travel, lodging and entertainment, and administration), external company costs (recruitment agency salaries, travel, lodging, and entertainment), company visit expenses (candidate travel, lodging, meals, interview workday expenses), direct fees (advertising, job fairs, cash awards for referrals, college recruiting), and supplemental data (annual salary of new hires, recruit work load, number of interviews vs. number of hires, acceptance rate, time to fill, turnover, relocation costs, and sign-on bonus) (Cluff, 2000; Thaler-Carter, 1997). EMA believes that a survey that allows for all of these possible costs gives them a chance to serve many organizations at once. It is also helpful to the organizations in that by using the same survey each year to access recruitment and selection costs, they are able to get an accurate understanding of how categories of cost change in effectiveness each year (Cluff, 2000).

EMA does not release cost effectiveness information pertaining to the specific corporations that they serve, but they do release a yearly report of industry cost averages and cost effectiveness based on the surveys of these corporations (Cluff, 2000). The data from this cost effectiveness report is used by organizations to compare their own

performance against the average of their industry and other industries in the United States.

In the 2000 EMA cost effectiveness report, it was found that from 1990 to 2000 the costs associated with hiring non-exempt employees has remained relatively constant with the average cost at \$1,498 (Cluff, 2000). It was found that from 1990 to 2000 the costs associated with hiring exempt employees rose approximately 5% per year with the cost of hiring in 2000 being \$10,500 (Cluff, 2000). Also, it was found that the average cost of recruiting applicants through print advertising (\$2,152), job fairs (\$1,024), and the internet (\$444) has remained relatively the same from 1999 to 2000. Whereas, the average cost of recruiting applicants from employee referrals has increased from \$200 to \$400 from 1990 to 2000, and the average cost of recruiting applicants from agencies has increased from \$8,000 to \$10,500 from 1990 to 2000 (Cluff, 2000).

The Saratoga Institute, a human resource consulting firm, developed a cost effectiveness survey in 1987 that is similar to the one the EMA developed in 1983 (Thaler-Carter, 1997). Saratoga's survey has the same categorical setup for accounting for costs as the EMA's survey except for that their survey does not ask for line item costs for "other recruiter costs" or "administrative expenses" (Davison, 2001; Thaler-Carter, 1997). Instead the Saratoga cost effectiveness survey gives these two costs a flat 10% weight. Having a flat weight associated with these costs may lead to results that are not as specific as the EMA survey (Davison, 2001; Thaler-Carter, 1997). The Saratoga Institute also puts out a yearly report, called the "Saratoga Institute's HR Effectiveness Report," consisting of the average recruitment and selection costs and cost effectiveness of the organization's that they serve by industry (Thaler-Carter, 1997).

Another cost effectiveness survey was designed by the American Management Association (AMA) in 1986 to “serve as a guideline to the human resource community” on how to develop such a survey (Bohl, 1986). The AMA field tested their survey on various organizations that subscribed to *Personnel Magazine*, and published a report from their findings titled “Hiring Costs and Strategies: The AMA Report” (Bohl, 1986).

The AMA’s effectiveness report is different from both the EMA and the Saratoga Institute’s in that their report was based on one field test, and the data collected in the surveys was not specific organizational data. Instead, the AMA gave their respondents a general recruitment and selection scenario to use as the basis for their cost assessment and outcomes (Bohl, 1986). One of two scenarios, Scenario A and Scenario B, were randomly sent to respondents. The respondents were to create a recruitment and selection strategy for the scenario that was similar to how they would actually handle the situation at their organization if the scenario were real. The AMA was interested in comparing these strategies to figure out which ones were the most efficient and effective based on the given scenario and the given effectiveness measures (Bohl, 1986). The AMA did collect data on the size and geographic location of the organizations that responded as well as organizational turnover rates to see if these factors affected the costs/values associated with the strategies of the respondents (Bohl, 1986).

The AMA survey consisted of questions related to recruitment sources and costs, recruiter costs (salary, time, travel, lodging, and entertainment), candidate costs (travel, lodging, entertainment, testing, interview time), hiring costs (relocation, expected success, time to fill, and time to start) (Bohl, 1986). It was also asked of the respondent

to list and other direct costs to the organization that were not accounted for in the previous survey questions.

The AMA collected 450 usable surveys from their field test (Bohl, 1986). Based on the results of their analysis they found some effective and efficient means for recruitment and selection practices. One of these findings was that a majority of respondents (25.5%) would use at least three recruiting methods for the scenarios (Bohl, 1986). The top three recruiting methods respondents indicated they would use were 1) files of previous applicants (61.6%), 2) posted listings for in-house applicants (47%), and 3) private employment agencies (39.5%) (Bohl, 1986). The average amount of recruitment dollars budgeted to be spent on recruitment for the respondents was \$1,210 (Bohl, 1986).

Overall, the AMA report has proved useful as a benchmark for human resource departments on effective and efficient recruitment and selection spending procedures. The survey itself has also proved useful in helping human resource department in designing their own cost effectiveness surveys based on their organizational and process goals (Bohl, 1986).

Applying Cost Effectiveness Analysis to UW-Stout. Though the examples stated previously explain how cost effectiveness analysis has benefited private organizations in accessing their recruitment and selection processes, they do not offer any advice on how a public, university setting may benefit by doing the same. Currently, there is no literature to be found on the use of cost effectiveness analysis by a university to access their recruitment and selection process. This does not mean that universities do not use

the technique, but implies that there are not any current studies that have been published of cost effectiveness analysis being used in a university setting.

Still, the examples of how private organizations use cost effectiveness analysis could be used as a guideline on how a university could use such a technique. The use of a survey similar to that of the EMA survey and/or the AMA survey would be an easy and accurate method for the UW-Stout EOAA Office to use to access the costs of the recruitment and selection process. Some of the ingredients accessed by the private organizations mentioned would be applicable to UW-Stout in that the fundamentals of recruiting and selecting employees are similar for both private and public organizations. In order to recruit applicants one must advertise the position in some fashion. And, in order to determine the best applicant for the position, one must interview those who applied, and so on.

It is thought by the investigator that by following the steps of the cost effectiveness analysis technique and referring to the examples of private organizations stated above, that a cost survey may be developed to access the costs of the UW-Stout recruitment and selection process, and that a cost effectiveness analysis may be conducted for the process as well.

The ingredients that would be valued for the UW-Stout recruitment and selection process would be the direct costs associated with the process according to the EMA cost effectiveness survey. These are the costs that the search committees are responsible for in the recruitment and selection process, and which come from the department budget of the search committee. It is in the interest of the EOAA office to only investigate the direct costs of the process at this time in order to gain insight on the resources that are

most related to aiding them in developing spending guidelines for the search committees. It is hoped by the EOAA office and the investigator that the analysis of the costs of these direct resources may allow for recommendations to be made to the search committees on how to effectively and efficiently spend their resources to recruit a diverse and ample pool of applicants and make a successful hire for an unclassified position.

The development and implementation of a cost effectiveness survey and analysis of the UW-Stout, unclassified recruitment and selection process should be considered as a field study of this technique used in the domain of a university setting. The results of the field study may be used by other universities in the guidance of developing their own cost effectiveness analyses. Results from this study may also be used by other universities to compare their own costs of the recruitment and selection of faculty and academic staff employees.

CHAPTER THREE

Method

Participants

Sample. The unclassified searches that were used in the research were those unclassified searches most recently completed in the 2001-2002 academic year. The determination of which unclassified searches were conducted in the 2001-2002 academic year was made by using the applicant tracking database located in the UW-Stout Equal Opportunity and Affirmative Action Office. The applicant tracking database organizes all unclassified searches that have been completed, or are in progress, by a number of variables, two of those variables being the year and an identification number (PIN number). There were 41 searches attempted in the 2001-2002 academic year, with 2 searches being canceled before the recruitment process. Since, the 2 searches that were canceled before the recruitment process would not have any costs associated with them, it was decided that they should not be used in the research. Therefore, a total of 39 searches were used in the cost analysis research.

Respondents. The report requests were sent to all department chairs that conducted an unclassified search in the 2001-2002 academic year. The names of the department chairs to receive the report requests were taken from the ES1 forms of those searches used in the research. (An ES1 form is used in the UW-Stout Recruitment and Selection Process to initiate a search process for an unclassified employment position. The ES1 form includes the names of those people are on the search committee).

The departments represented in this research include: English and Philosophy Department; Biology Department; Math, Statistics, and Computer Science Department;

Social Science Department; Speech, Communication, Foreign Language, Theater, and Music Department; Education, School Counseling and School Psychology Department; Industrial Management Department; STTI Department; SVRI Department; CET Department; Learning and Technology Services Department; Student Center; Residence Life; Student Support Services; and University Dining Services. Only the department searches for unclassified positions were accessed in this research, which includes only faculty and academic staff positions. But, it is important to point out that all of these departments may differ with one another in relation to their particular goals for recruitment and selection of unclassified employees and in their particular needs and resources as a department. For example, departments have different by-laws, employee skill needs, numbers of faculty positions, numbers of academic staff positions, and retention rates. So when a comparison is made between departments on search costs, it is important to keep possible department differences in mind.

Only the investigator and the Equal Opportunity and Affirmative Action Office had knowledge of the names of the department chairs that received the report requests. Names of department chairs were not included on the report requests. Instead, the PIN number of the specific search that was located on the report request was used for identification purposes. Even though participating department chairs were only known by the investigator and the EOAA Office, consent forms asking for the department chairs' permission to use the information that they provided were sent for their signature along with the report requests.

Response Rate. Twenty-six out of the 39 report requests were returned, for a response rate of 67%.

Materials

A survey entitled “Direct Costs of Unclassified Search Report Request: University of Wisconsin Stout” was developed to assess the recruitment costs, the telephone interview costs, the on-campus interview costs, the testing costs, the credential verification costs, and the relocation costs of an individual unclassified search (Appendix I).

For this survey, recruitment costs were defined as advertisements made for the unclassified position in publications and/or professional journals, the posting of an unclassified position on any internet job site, any form of networking to advertise the unclassified position (such as at a job fair, college recruitment fair, or conference), and any “other” approaches used to advertise the job. Six specific professional journals were listed on the survey to inquire about the costs associated with advertising in each one for a search. These six journals were listed because the UW-Stout EOAA Office specifically encourages search committees to advertise in them to increase the diversity of the applicant pool. Participants were also given the option to fill in the name of any other publications/journals/newspapers they advertised in as well as the dollar cost of advertising.

Telephone interview costs on the survey were classified as the number of long distance telephone call minutes for the telephone interview process that were associated with a search. The long distance telephone call minutes were multiplied by the cost of long distance for UW-Stout which is \$.05 per minute. Local calls were not measured because there is not a charge for these minutes to the department by the University.

Campus interviews costs on the survey were defined as the costs for candidate/interviewer travel, lodging, dining, and/or entertainment. Participants were to indicate the total dollar amount of each of these categories for all campus interview candidates for a search. There was also an option for “no costs” if there were no campus interviews conducted for a search, or if there were simply no costs associated with the campus interview process.

Testing costs were defined as costs for job skill testing, psychological testing, behavioral testing, and “other” testing. These general testing titles were chosen so that a number of possible tests could be included in any category. There was also an option for “no testing” if testing was not conducted in a search.

Credential verification costs were assessed by asking for the long distance telephone call minutes used for a search in conducting reference checks for candidates. Other options were for the costs of drug screening tests and “other verification.” Long distance telephone minutes were multiplied by the cost of long distance for the University at \$.05 per minute to indicate the exact dollar cost of reference calls.

Relocation costs were also assessed on the survey by asking participants to indicate how much relocation assistance they paid for a search. If no relocation costs were spent for a search, there was a “no cost” option.

Finally, participants could indicate any “other dollar costs” they incurred through the search process. Participants were asked to indicate what the cost activity was and what dollar amount they spent on this activity.

The survey also included information that identified the particular unclassified search including: the search’s PIN number (identification number), the position the

search was attempting to hire for, and whether the search was successful or unsuccessful in hiring an individual for the position. The survey was referred to as a report request since those receiving the survey were asked to report specific information.

Procedure

A report request (per search), a consent form (per search), and a letter explaining the purpose of the report request information were mailed to each participating department chair through intercampus mail on July 17, 2002. Department Chairs were asked to mail, fax, or personally submit their completed report requests and consent forms to the EOAA office by August 19, 2002. A reminder letter was sent to those department chairs who did not return their report requests on July 29, 2002. And, a reminder telephone call was made to those department chairs that did not turn in their report requests on August 12, 2002.

While waiting for the report requests to be returned, an SPSS data shell was created based on the information that was contained in the report request. Additional data from the 2001-2002 academic year unclassified searches was also included in the SPSS data shell. This additional data was the number of men, women, and minority applicants for each search, the number of men, women, and minority hires for each search, and whether the search is for a faculty or academic staff position. This additional information was taken from the applicant tracking database located in the EOAA Office.

All report requests and consent forms were collected on August 19, 2002. The data from those report requests returned were entered into the SPSS database shell.

CHAPTER FOUR

Results

Explanation of Analyses. This results section is arranged according to the cost categories on the survey instrument in addition to a section of the summary of search costs. All statistical analyses were conducted using an alpha level of .05, and a sample of 26 searches was used for the analyses. The term “successful search” refers to a search that made a hire, and the term “unsuccessful search” refers to a search that did not make a hire.

Summary of Search Cost Data. The total costs (\$76,596.94), by recruitment and selection cost category, of the combined 2001-2002 unclassified searches are summarized in Table 1.

Table 1: Total Costs of the 2001-2002 Unclassified Searches (N = 26)	
Cost Category	Total Cost
Total Recruitment Techniques	\$ 30,530.00
Advertising in Publications & Newspapers	\$ 24,612.09
Internet Job Sites	\$ 2,880.00
Networking Functions	\$ 2,679.00
Other Techniques	\$ 359.71
Total Telephone Interview(s)	\$ 226.80
Total Campus Interview(s)	\$ 27,912.37
Travel	\$ 22,378.50
Lodging	\$ 2,751.12
Dining	\$ 2,746.98
Entertainment	\$ 0.00
Total Testing	\$ 0.00
Job Skills	\$ 0.00
Psychological	\$ 0.00
Behavioral	\$ 0.00
Other	\$ 0.00
Total Credential Verification	\$ 47.75
Reference Checks (Cost of Long Distance Telephone Calls)	\$ 47.75
Drug Screening	\$ 0.00
Other	\$ 0.00
Total Relocation	\$ 17,385.53
Other Associated Costs	\$ 493.69
Total of all 26 Searches	\$ 76,596.94

The average costs by recruitment and selection cost category of a 2001-2002 search (\$2,946.04), successful search (\$3,538.15), unsuccessful search (\$1,613.78), faculty search (\$3,192.85), and academic staff search (\$2,658.09) are summarized in Tables 2-6.

Table 2: Average Costs of the 2001-2002 Unclassified Searches (N=26)	
Cost Category	Mean Cost
Total Recruitment Techniques	\$ 1,174.26
Advertising in Publications & Newspapers	\$ 946.62
Internet Job Sites	\$ 110.77
Networking Functions	\$ 103.04
Other Techniques	\$ 13.84
Total Telephone Interview(s)	\$ 8.72
Total Campus Interview(s)	\$ 1,073.55
Travel	\$ 860.71
Lodging	\$ 105.81
Dining	\$ 105.65
Entertainment	\$ 0.00
Total Testing	\$ 0.00
Job Skills	\$ 0.00
Psychological	\$ 0.00
Behavioral	\$ 0.00
Other	\$ 0.00
Total Credential Verification	\$ 1.84
Reference Checks (Cost of Long Distance Telephone Calls)	\$ 1.84
Drug Screening	\$ 0.00
Other	\$ 0.00
Total Relocation	\$ 668.67
Other Associated Costs	\$ 18.99
Total Unclassified Searches	\$ 2,946.04

Table 3: Average Costs of the Successful 2001-2002 Unclassified Searches (N=18)	
Cost Category	Mean Cost
Total Recruitment Techniques	\$ 1,254.55
Advertising in Publications & Newspapers	\$ 1,018.35
Internet Job Sites	\$ 69.17
Networking Functions	\$ 148.83
Other Techniques	\$ 18.20
Total Telephone Interview(s)	\$ 10.06
Total Campus Interview(s)	\$ 1,284.68
Travel	\$ 1,013.33
Lodging	\$ 132.24
Dining	\$ 137.12
Entertainment	\$ 0.00
Total Testing	\$ 0.00
Job Skills	\$ 0.00
Psychological	\$ 0.00
Behavioral	\$ 0.00
Other	\$ 0.00
Total Credential Verification	\$ 2.19
Reference Checks (Cost of Long Distance Telephone Calls)	\$ 2.19
Drug Screening	\$ 0.00
Other	\$ 0.00
Total Relocation	\$ 965.86
Other Associated Costs	\$ 20.81
Total Successful Unclassified Searches	\$ 3,538.15

Table 4: Average Costs of the Unsuccessful 2001-2002 Unclassified Searches (N=8)	
Cost Category	Mean Cost
Total Recruitment Techniques	\$ 993.60
Advertising in Publications & Newspapers	\$ 785.22
Internet Job Sites	\$ 204.38
Networking Functions	\$ 0.00
Other Techniques	\$ 4.01
Total Telephone Interview(s)	\$ 5.73
Total Campus Interview(s)	\$ 598.52
Travel	\$ 517.31
Lodging	\$ 46.34
Dining	\$ 34.86
Entertainment	\$ 0.00
Total Testing	\$ 0.00
Job Skills	\$ 0.00
Psychological	\$ 0.00
Behavioral	\$ 0.00
Other	\$ 0.00
Total Credential Verification	\$ 0.00
Reference Checks (Cost of Long Distance Telephone Calls)	\$ 0.00
Drug Screening	\$ 0.00
Other	\$ 0.00
Total Relocation	\$ 0.00
Other Associated Costs	\$ 14.88
Total Unsuccessful Unclassified Searches	\$ 1,613.78

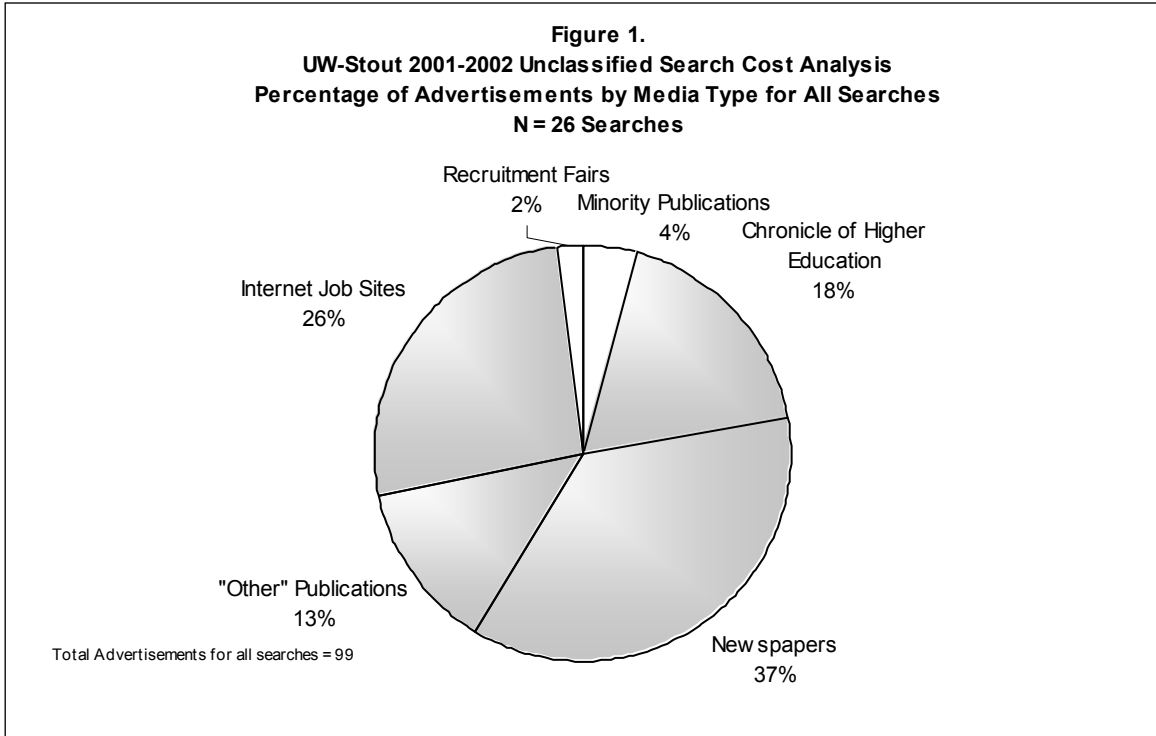
Table 5: Average Costs of the Faculty 2001-2002 Unclassified Searches (N=14)	
Cost Category	Mean Cost
Total Recruitment Techniques	\$ 1,086.16
Advertising in Publications & Newspapers	\$ 945.47
Internet Job Sites	\$ 128.21
Networking Functions	\$ 0.00
Other Techniques	\$ 12.48
Total Telephone Interview(s)	\$ 10.38
Total Campus Interview(s)	\$ 1,464.72
Travel	\$ 1,236.84
Lodging	\$ 131.22
Dining	\$ 94.11
Entertainment	\$ 0.00
Total Testing	\$ 0.00
Job Skills	\$ 0.00
Psychological	\$ 0.00
Behavioral	\$ 0.00
Other	\$ 0.00
Total Credential Verification	\$ 1.82
Reference Checks (Cost of Long Distance Telephone Calls)	\$ 1.82
Drug Screening	\$ 0.00
Other	\$ 0.00
Total Relocation	\$ 600.00
Other Associated Costs	\$ 29.76
Total Faculty Unclassified Searches	\$ 3,192.85

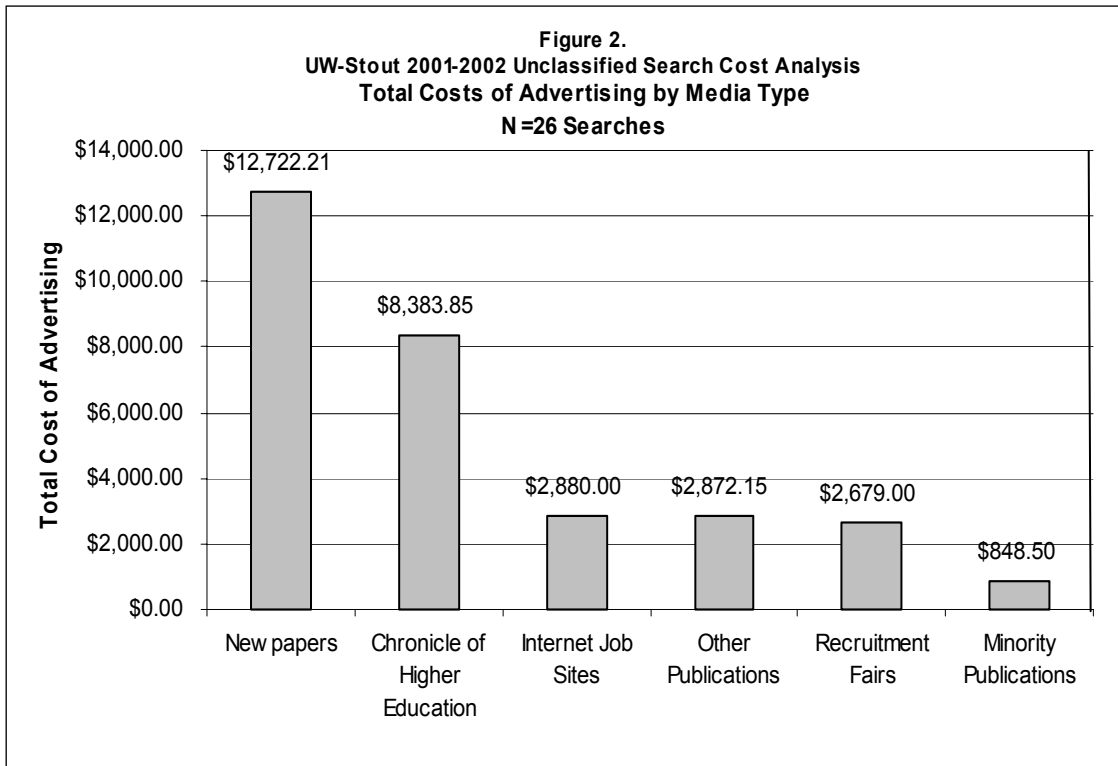
Table 6: Average Costs of the Academic Staff 2001-2002 Unclassified Searches (N=12)	
Cost Category	Mean Cost
Total Recruitment Techniques	\$ 1,277.04
Advertising in Publications & Newspapers	\$ 947.96
Internet Job Sites	\$ 90.42
Networking Functions	\$ 223.25
Other Techniques	\$ 15.42
Total Telephone Interview(s)	\$ 6.80
Total Campus Interview(s)	\$ 617.18
Travel	\$ 421.89
Lodging	\$ 76.17
Dining	\$ 119.13
Entertainment	\$ 0.00
Total Testing	\$ 0.00
Job Skills	\$ 0.00
Psychological	\$ 0.00
Behavioral	\$ 0.00
Other	\$ 0.00
Total Credential Verification	\$ 1.85
Reference Checks (Cost of Long Distance Telephone Calls)	\$ 1.85
Drug Screening	\$ 0.00
Other	\$ 0.00
Total Relocation	\$ 748.79
Other Associated Costs	\$ 6.42
Total Academic Staff Unclassified Searches	\$ 2,658.09

Recruitment Cost Data. Recruitment techniques were divided into advertising media categories. These categories were publications/professional journals, postings on Internet job sites (excluding higheredjobs.com), networking functions, and “other” techniques. Department chairs were asked to indicate where they advertised for a search and the total cost of each advertisement.

There were a total of 99 advertisements for the combined 2001-2002 unclassified searches. The majority of these 99 advertisements were placed in newspapers (37%) and on Internet job sites (26%) (See Figure 1). The majority of recruitment dollars were spent on newspaper advertisements (\$12,722.21), followed by advertisements in *The Chronicle of Higher Education* (\$8,383.85) (See Figure 2). The amount of recruitment dollars spent on advertisements in *The Chronicle of Higher Education* was more than the

amount of recruitment dollars spent on placing advertisements on Internet job sites, even though *more* advertisements were placed on Internet job sites than in *The Chronicle of Higher Education*.





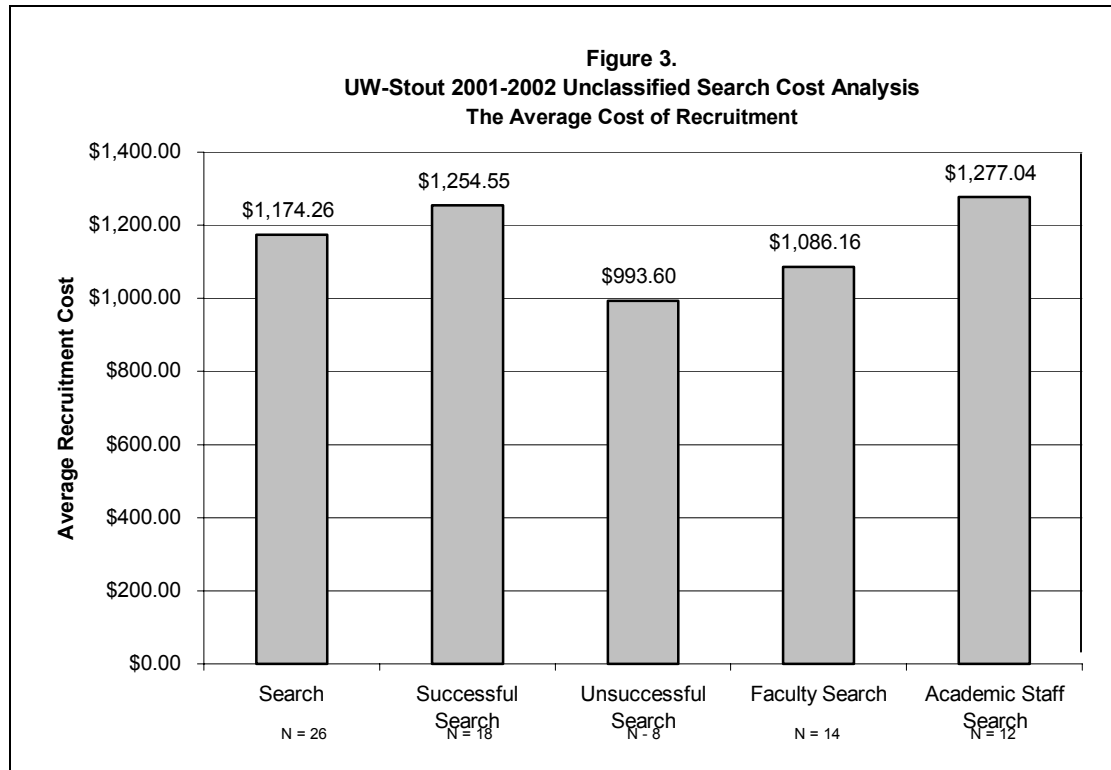
The least amount of money spent on recruitment techniques by a successful search was \$463.50. This search used advertising in professional journals and publications as a recruitment technique. The most amount of money spent on recruitment techniques by a successful search was \$3,161.91. This search used advertising in professional journals and publications, advertising in newspapers, and advertising on internet job sites as recruitment techniques.

Search CAS4602021 attracted the most applicants (103), and spent \$815.00 on recruitment techniques. Search ASLS4002005 attracted the least applicants (7), and spent \$2,912.83 on recruitment techniques. Search CHD1602013 attracted the most female applicants (38), and spent \$705.00 on recruitment techniques. Search CAS4602039 attracted the least female applicants (0), and spent \$840.00 on recruitment

techniques. Search CAS4602021 attracted the most minority applicants (44), and spent \$815.00 on recruitment techniques. Search ASLS4002005 attracted the least minority applicants (0), and spent \$580.00 on recruitment techniques. And, search ASLS9102044 attracted the most diverse pool of applicants (20 applicants, 9 women, 11 men, and 5 minorities), and spent \$1,084.50 on recruitment techniques.

An independent t-test was conducted to determine there was a significant difference between a successful search and an unsuccessful search on the amount of money spent on recruitment techniques. There was not a statistically significant difference between the recruitment costs of a successful search and the recruitment costs of an unsuccessful search, $t(24) = .508$, $p = \text{NS}$.

An independent t-test was conducted to determine if there was a significant difference between faculty searches and academic staff searches on the amount of money spent for recruitment techniques. There was not a statistically significant difference between the recruitment costs of a faculty search and the recruitment costs of an academic staff search, $t(24) = .602$, $p = \text{NS}$. The average cost of recruitment for faculty searches (\$1,086.16) is similar to that of academic staff searches (\$1,277.04) (See Figure 3).



In order to compare the costs of advertising in publications, professional journals and newspapers for a successful search and an unsuccessful search, an independent t-test was conducted. There was not a statistically significant difference between the advertising costs of a successful search and the advertising costs of an unsuccessful search, $t(24) = .517$, $p = NS$. But, there is a \$233.13 difference between the average advertising costs of a successful search (\$1,018.35) and the average advertising costs of unsuccessful searches (\$785.22). Successful searches appear to spend more on advertising than unsuccessful searches.

After conducting an independent t-test to compare the costs of advertising in publications, professional journals, and newspapers for faculty searches and academic staff searches, it was found that there was not a statistically significant difference between the advertising costs of a faculty search and the advertising costs of an academic

staff search, $t(24) = .994$, $p = \text{NS}$. The average cost of advertising for faculty searches (\$945.47) is similar to that of academic staff searches (\$947.96).

A correlation was conducted in order to assess how the total recruitment costs of a search affect the number of applicants a search receives. It seems that there was not a statistically significant relationship between the total recruitment costs of a search and the total number of applicants for a search, $r = .072$, $p = \text{NS}$. As the total amount of recruitment costs increase for a search, the number of applicants of a search does not necessarily increase. This is also true when conducting a correlation for total recruitment costs and the number of female ($r = .109$, $p = \text{NS}$), male ($r = .018$, $p = \text{NS}$), and minority ($r = -.057$, $p = \text{NS}$) applicants separately.

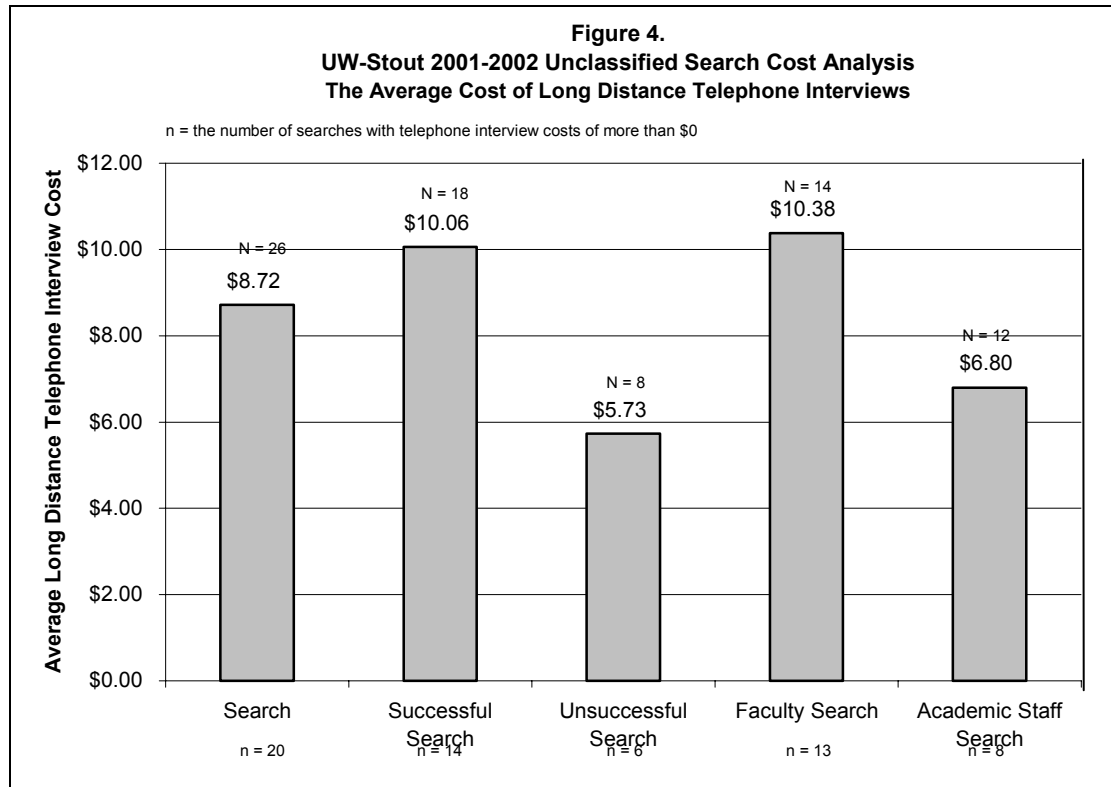
After conducting a correlation for each recruitment technique it was found that there was not a statistically significant relationship between any of the individual recruitment methods (cost of advertising in publications/professional journals ($r = -.011$, $p = \text{NS}$), cost of advertising in on the internet ($r = -.042$, $p = \text{NS}$), cost of advertising at a networking function ($r = .151$, $p = \text{NS}$), and cost of advertising in “other” areas ($r = .113$, $p = \text{NS}$) and the total number of applicants for a search. Therefore, as the recruitment costs for each individual recruitment techniques increases, the number of applicants for a search does not necessarily increase. This is also true when looking at female, male, and minority applicants separately.

Telephone Interview Cost Data. Department chairs were asked to indicate how many telephone interviews they conducted for each search, if they conducted any long distance telephone interviews, and a total, or estimate, of long distance call minutes used for long distance telephone interviews.

There was a total of 4,536 long distance call minutes used during telephone interviews for the combined 2001-2002 unclassified searches. There were a total of 174 long distance telephone interviews conducted including 82 (47%) female telephone interview candidates, 92 (53%) male telephone interview candidates, with 32 (18%) of the male and female candidates being minorities. The long distance call minutes were multiplied by the UW-Stout long distance call rate of \$0.05 per minute. The total cost of long distance call minutes used for telephone interviews was \$226.80.

Figure 4 shows that the average cost of telephone interviews for a successful search (\$10.06) is almost twice the average cost of telephone interviews for an unsuccessful search (\$5.73). But, after conducting an independent t-test to assess differences between the average telephone interview costs for successful searches and for unsuccessful searches, it was found that there was not a statistically significant difference, $t(24) = .297$, $p = \text{NS}$.

The average cost of telephone interviews for a faculty search (\$10.38) is almost twice the average cost of telephone interviews for an academic staff search (\$6.80) (See Figure 4). But, after conducting an independent t-test it was found that there was not a statistically significant difference between the average cost of telephone interviews for a faculty search and the average cost of telephone interviews for an academic staff search, $t(24) = .353$, $p = \text{NS}$.



Campus Interview Cost Data. Department chairs were asked to indicate the number of on-campus interview candidates they had for each search. They were also asked to indicate the total amount, or an estimate, of travel costs, lodging costs, dining costs, and entertainment costs associated with each search's campus interviews. If there were no on-campus interview costs associated with a search, the department chairs were to check the "no costs" box on the report request.

The total number of candidates brought to campus for on-campus interviews for the combined 2001-2002 searches was 85. The majority of money spent on on-campus interviews went to travel costs (See Figure 5). There were no entertainment costs (See Figure 5).

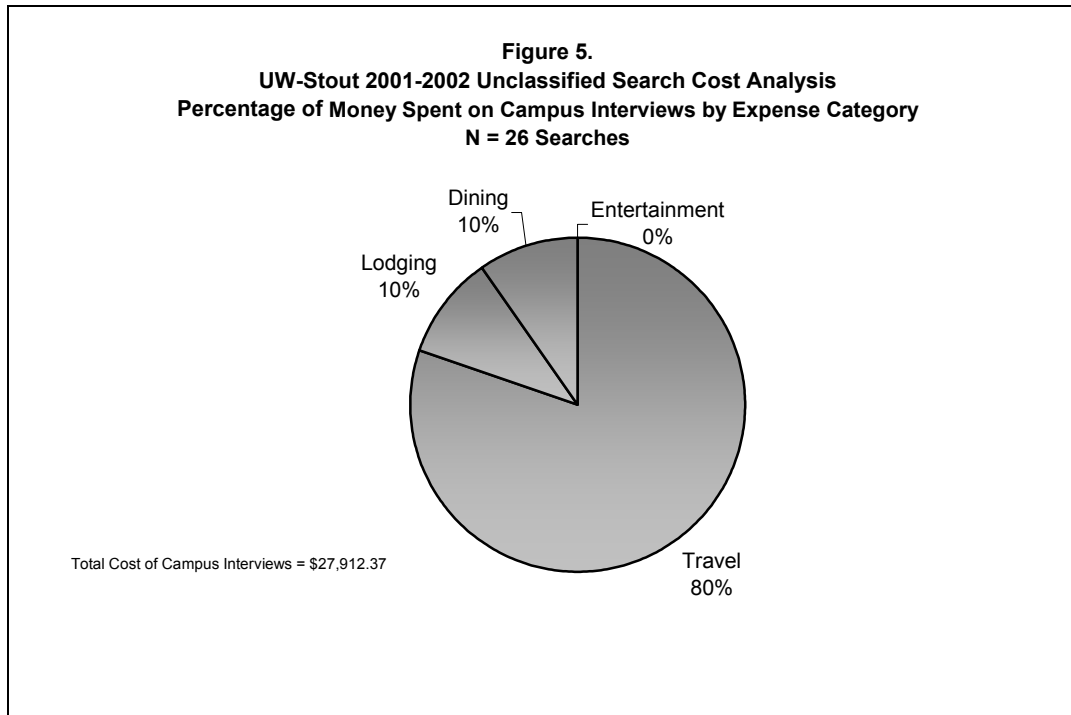
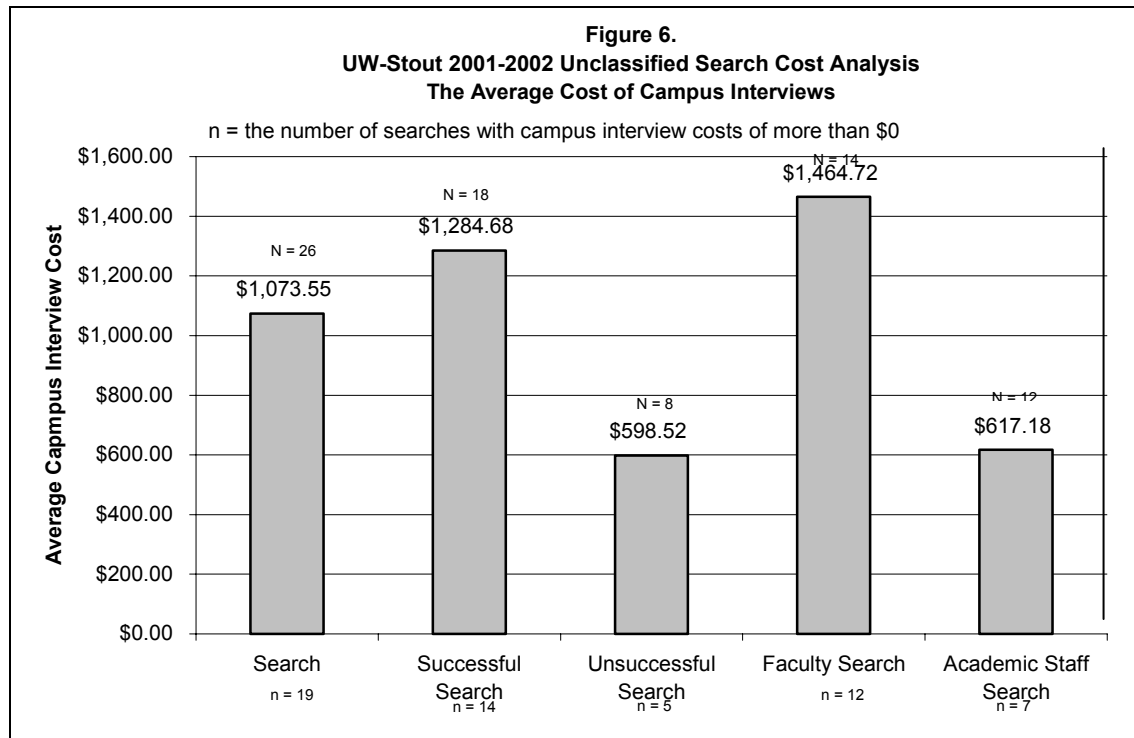


Figure 6 shows that the average on-campus interview cost for a successful search (\$1,284.68) is almost twice the average cost of on-campus interviews for an unsuccessful search (\$598.52). In order to determine if this difference in cost was statistically significant, an independent t-test was conducted. But, there was not a statistically significant difference between the cost of on-campus interviews for a successful search and the cost of on-campus interviews for an unsuccessful search, $t(24) = .241$, $p = NS$. The reason that there appears to be a difference may be due to the fact that half of the unsuccessful searches had no on-campus interview costs, whereas the majority of successful searches did have on-campus interview costs.

Figure 6 shows that the average on-campus interview cost for a faculty search (\$1,464.72) is more than twice the average cost of on-campus interviews for an academic staff search (\$617.18). But, according to an independent t-test, there was not a statistically significant difference between the cost of on-campus interviews for a faculty

search and the cost of on-campus interviews for an academic staff search, $t(24) = .114$, $p = \text{NS}$. The reason that there appears to be a difference may be due to the fact that half of the academic staff searches did not have on-campus interview costs, whereas the majority of faculty searches did have on-campus interview costs.



In order to assess if the number of on-campus interview candidates affected the total amount of money spent on-campus interviews, a correlation was conducted. It was found that there was a statistically significant relationship between the number of on-campus interview candidates for a search and the total cost of on-campus interviews, $r = .648$, $p < .05$. As the number of on-campus interview candidates increase for a search, the cost of on-campus interviews increases. This increase in on-campus interview costs may be due to an increase in travel costs as more candidates had to travel to come to their

interview on the UW-Stout campus. In fact, travel costs were the most expensive component of campus interview costs for all searches that conducted campus interviews.

Testing Cost Data. Department chairs were asked to indicate the type of candidate testing that they used for each search, as well as the cost of the testing. Categories of testing were job skill testing, psychological testing, behavioral testing, and “other” testing. If no candidate testing was used in a search, department chairs were asked to indicate that there was “no testing conducted.”

None of the candidate testing categories were selected for any of the 2001-2002 unclassified searches, which means that there were no candidate testing costs for any of the searches.

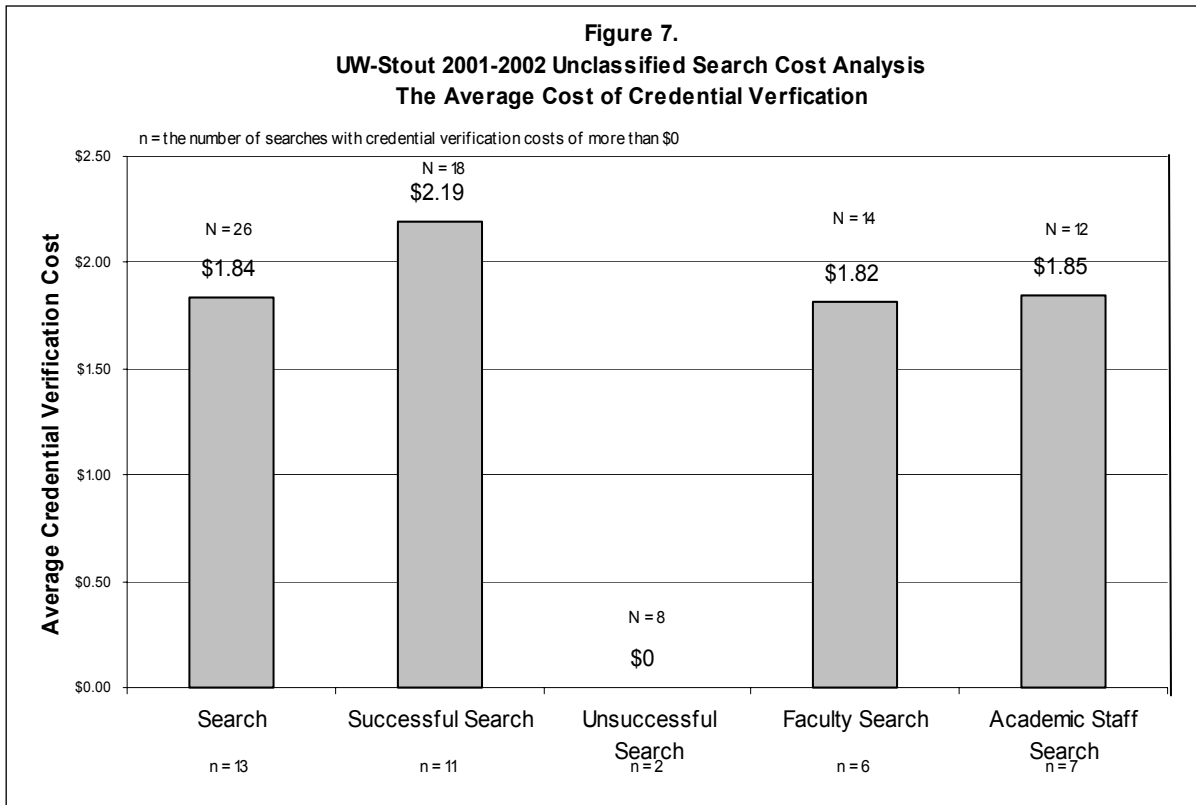
Credential Verification Costs. Department chairs were asked to indicate the type of credential verification they used for each search. Choices for credential verification were long distance telephone calls to check references, drug screening tests, and “other” verification. If “long distance telephone calls to check references” was selected, department chairs were asked to indicate the total minutes of long distance call time used for checking references for each search. If drug screening tests or “other” verification was selected, department chairs were asked to indicate the costs, or an estimate, of each per search.

The only credential verification selected for the 2001-2002 unclassified searches was that of long distance telephone minutes to check references. There were a total of 955 minutes of long distance call time used to check references for the combined searches. The total cost of the minutes used to check references was \$47.75. Long

distance minutes were multiplied by the UW-Stout long distance call time rate of \$0.05 per minute.

Figure 7 shows the average credential verification cost for a successful search (\$2.19) as being 100% more than the average cost of credential verification for an unsuccessful search (\$0.00). The reason there appears to be a difference is due to the fact that the unsuccessful searches did not reach the credential verification stage of the selection process, and therefore had no credential verification costs.

In order to determine if there was a significant difference between the cost of credential verification for faculty searches and for academic staff searches, an independent t-test was conducted. There was not a statistically significant difference between the cost of credential verification for a faculty search (\$1.82) and the cost of credential verification for an unsuccessful search (\$1.85), $t(24) = .947$, $p = NS$). The cost of credential verification for faculty searches is similar to that of academic staff searches (See Figure 7).

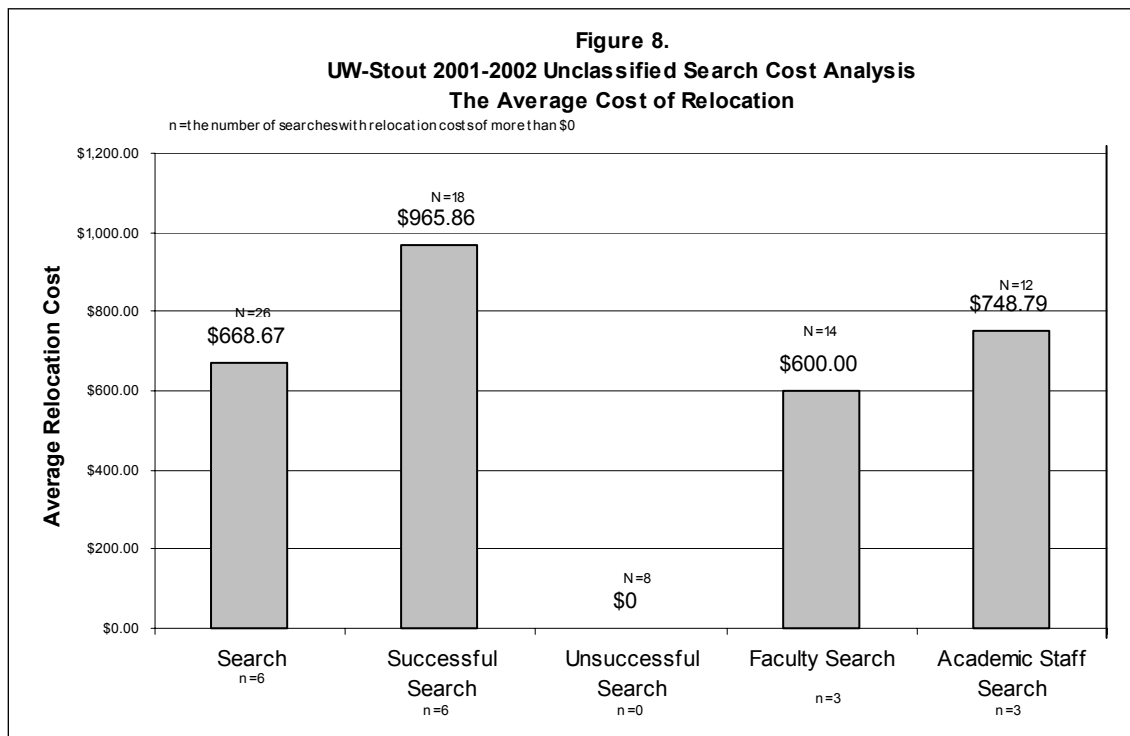


Relocation Cost Data. Department chairs were asked to indicate if they had any relocation costs for each search. There were 6 searches with relocation costs. The total cost of relocation for the 2001-2002 searches was \$17,385.53. The average cost of relocation for a search was \$668.67 (See Figure 8).

The average relocation cost of a successful search (\$965.86) was 100% more than the average relocation cost of an unsuccessful search (\$0.00) (See Figure 8). This difference is due to the fact that none of the unsuccessful searches had relocation costs since there were no hires made for unsuccessful searches.

In order to determine if there was a significant difference between the costs of relocation for faculty searches and for academic staff searches, an independent t-test was

conducted. There was not a statistically significant difference between the relocation costs of a faculty search and that of an academic staff search, $t(24) = .807$, $p = NS$. The average relocation cost of a faculty search (\$600.00) was similar to the average relocation cost of an academic staff search (\$748.79) (See Figure 8). The average relocation cost of an academic staff search was only \$148.79 more than the average relocation cost of a faculty search.

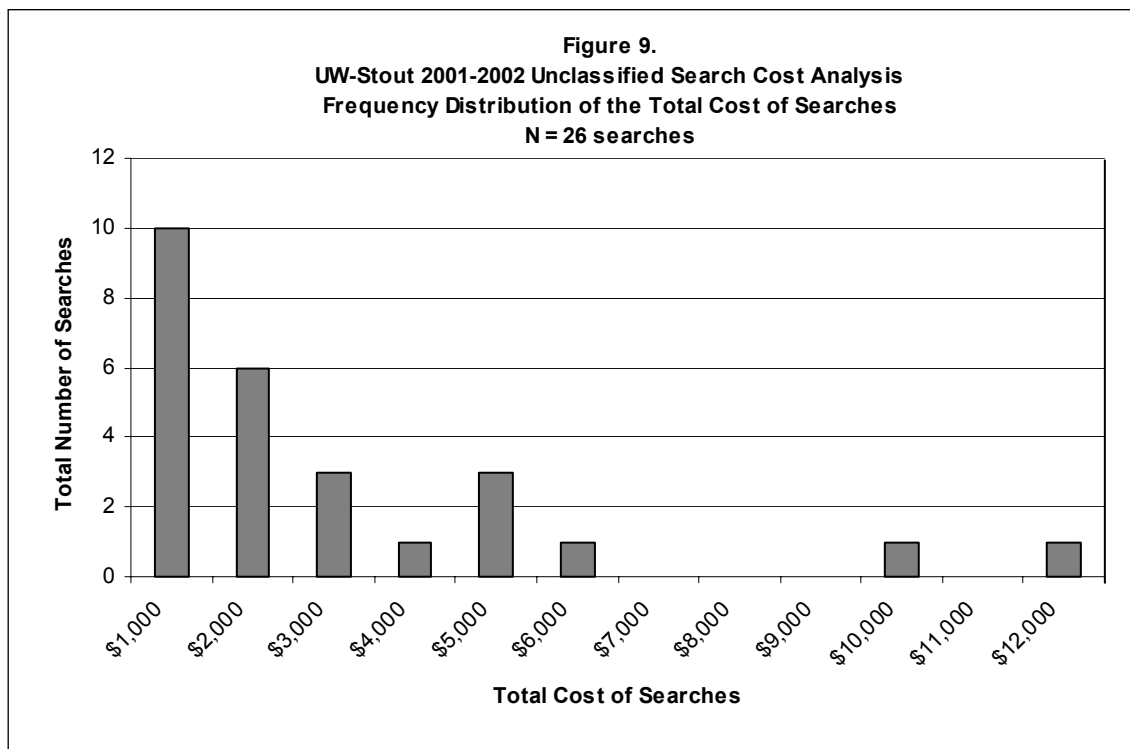


“Other” Search Cost Data. Department chairs were asked to indicate if there were any other direct costs associated with a search. There were 12 searches that indicated “other” costs. The total cost of “other” direct costs for the 2001-2002 searches was \$493.69. “Other” costs indicated were for: office supplies, duplicating, postage, long distance

telephone charges not related to the telephone interview process or the credential verification process, and letterhead.

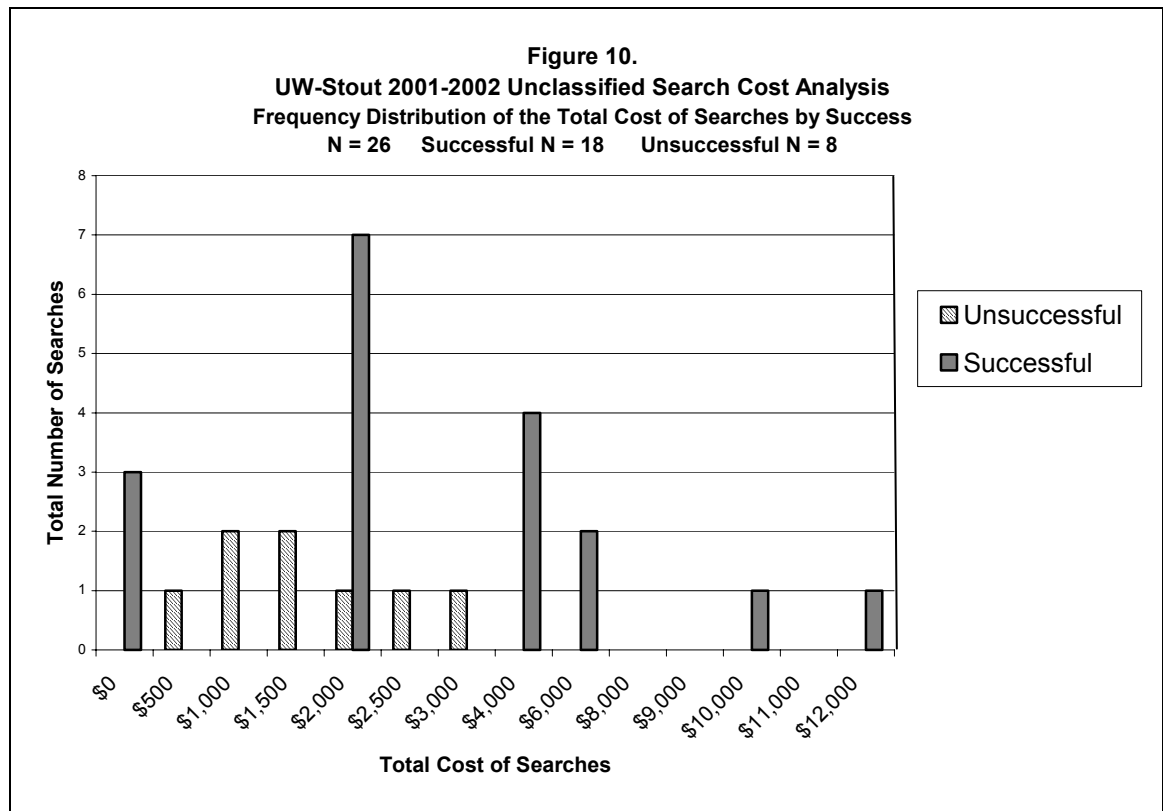
Search Total Cost Data. The total cost of each search was calculated by adding together the total recruitment costs, the total interview costs, the total testing costs, the total credential verification costs, the total relocation costs, and the total “other” costs for each search.

Individual searches were widely distributed in total cost, with a majority of searches totaling approximately \$1,000. Individual searches range from a total cost of approximately \$1,000 - \$12,000 (See Figure 9).

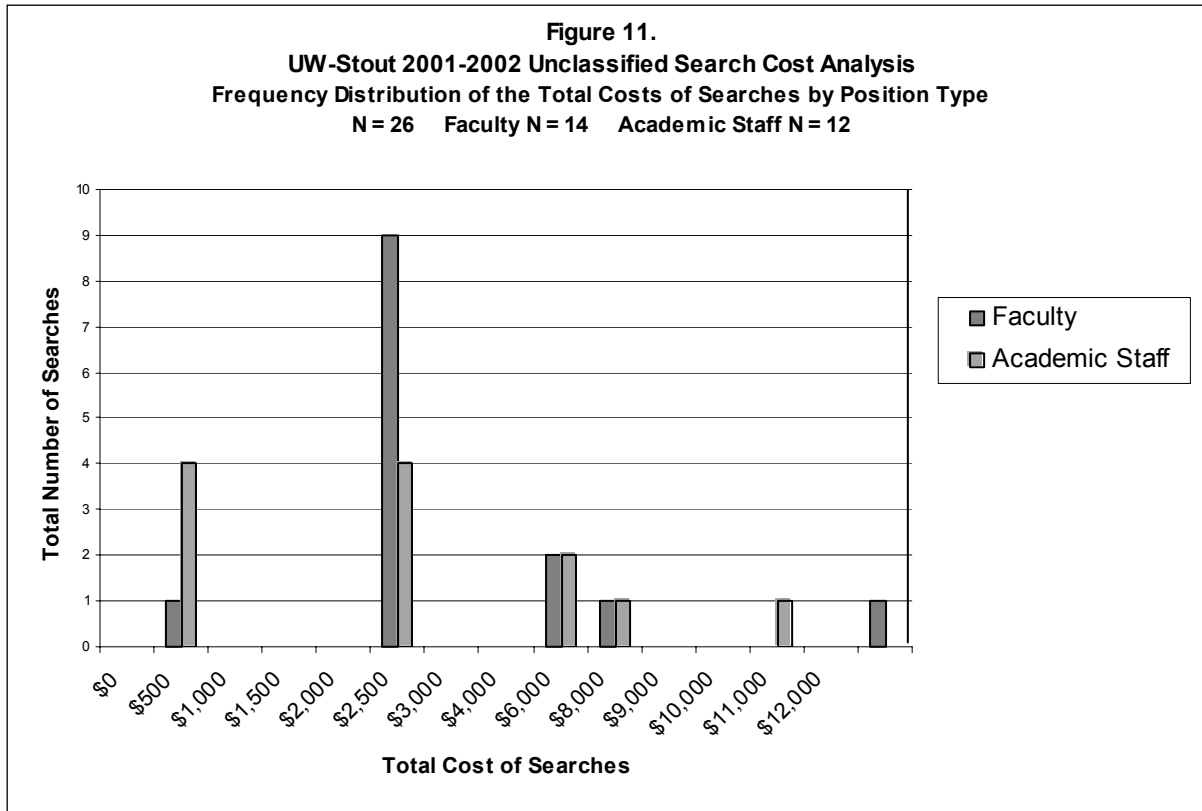


There is a wide distribution in total cost for both successful searches, and for unsuccessful searches. Successful searches range from approximately \$500 - \$12,000 in

total cost, and unsuccessful searches range from approximately \$500 - \$3,000 in total cost.



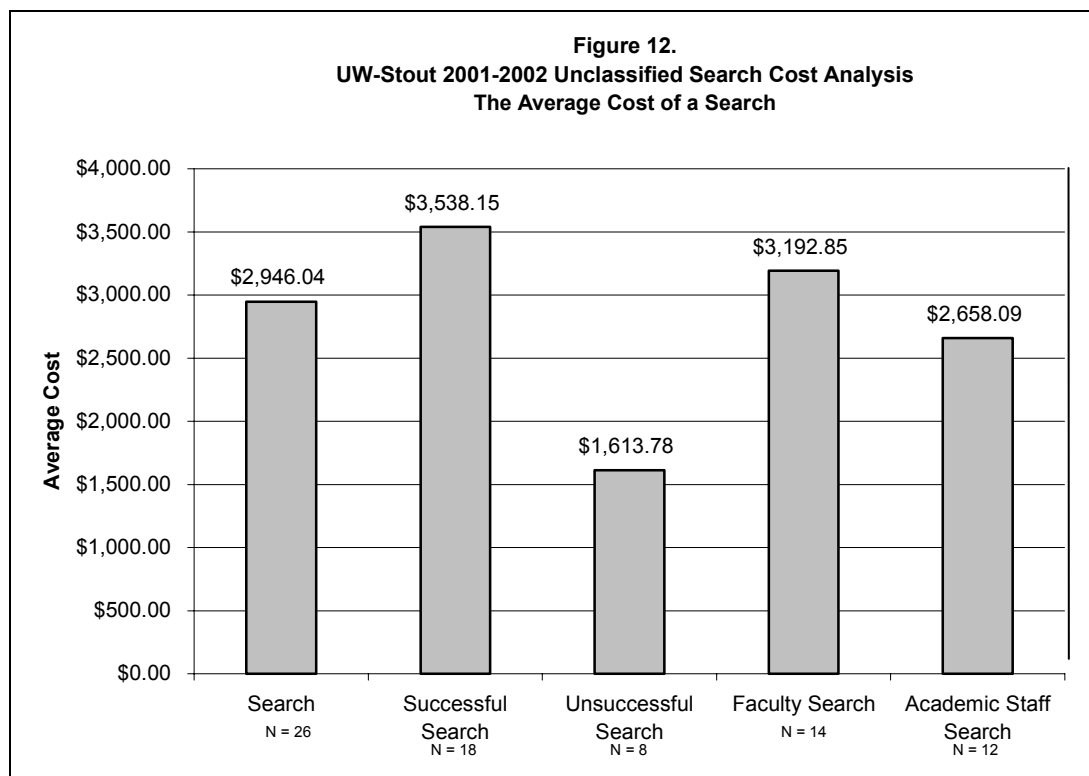
The majority of faculty searches have an approximate total cost of \$2,000, whereas the majority of academic staff searches range from \$500 - \$2,000. So, there is more variability in the costs for academic staff searches (See Figure 11).



In order to determine if there was a statistically significant difference between the costs of a successful search and an unsuccessful search, an independent t-test was conducted. There was a statistically significant difference between the cost of a successful search and the cost of an unsuccessful search, $t(24) = .026$, $p < .05$. The average cost for a successful search (\$3,538.15) is significantly higher than the average cost for an unsuccessful search (\$1,613.78) (See Figure 12). This difference may be due to the fact none of the unsuccessful searches have relocation costs, whereas the majority of successful searches do have relocation costs. The prevalence of relocation costs in the majority of successful searches may have skewed the measure. Another factor for the significance may be that a majority of successful searches spent more on recruitment costs than did unsuccessful searches.

It is important to point out that the average cost of an unsuccessful search is approximately \$1,600. This means that in the 2001-2002 academic year, there was approximately \$13,000 spent on unsuccessful searches (\$1,600 x 8 unsuccessful searches).

Figure 12 shows the average cost of a faculty search (\$3,192.85) as being approximately \$500 more than the average cost of an academic staff search (\$2,658.09). In order to determine if this difference is significant, an independent t-test was conducted. But, there was not a statistically significant difference between the cost of a faculty search and the cost of an academic staff search, $t(24) = .638$, $p = \text{NS}$.

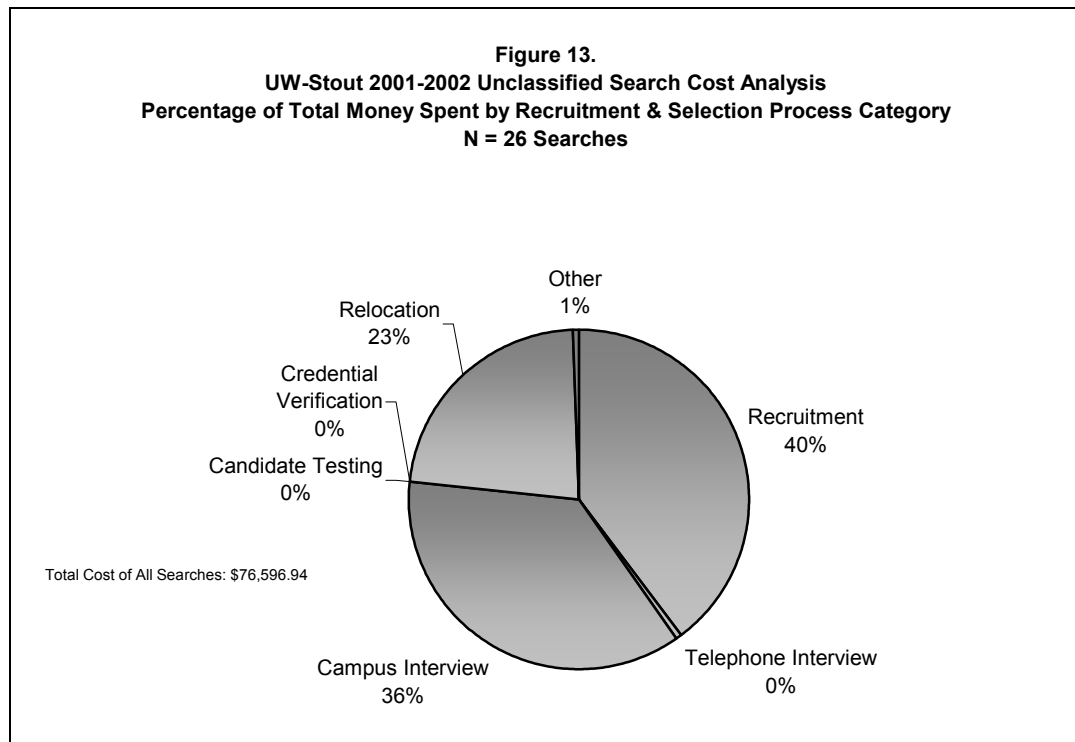


In order to determine if there was a statistically significant relationship between the total cost of a search and the total number of applicants a search receives, a correlation was conducted. There was a statistically significant relationship between the

total cost of a search and the total number of applicants for a search, $r = .672$, $p > .05$. As the cost of a search increased, the number of applicants for a search increased. This significance may be due to costs such as telephone interview costs and campus interview costs increasing as more qualified applicants applied for the position.

In order to determine if there was a statistically significant relationship between the success of search (a successful search is one that makes a hire) and the total cost of search, a correlation was conducted. There was not a statistically significant relationship between the success of a search and the total cost of a search, $r = .323$, $p = \text{NS}$. As the cost of a search increases, the chances of that search making a hire does not necessarily increase.

It was found that the majority of the total cost of the 2001-2002 unclassified searches went to recruitment costs, followed by campus interview costs (See Figure 13).



Search Cost Data by Department. There were 15 UW-Stout department chairs who returned their report requests for their unclassified searches. The departments that are represented are indicated in Table 7.

Table 7: UW-Stout Departments Represented in the 2001-2002 Cost Analysis Research	
College/Area	Department
College of Arts and Sciences	English and Philosophy Biology Math, Statistics, and Computer Science Social Science Speech, Communication, Foreign Language, Theater, and Music
College of Human Development	Education, School Counseling and School Psychology
College of Technology and Management	Industrial Management STTI SVRI CET
Student Life Services	Learning and Technology Services Student Center Residence Life Student Support Services University Dining Services

Search cost data by department of the 2001-2002 unclassified searches is summarized in tables 8-9. There were not enough searches per department in the 2001-2002 data to accurately measure statistical differences in recruitment and selection costs for searches between departments. The data represented for departments are the average costs spent on recruitment and selection procedures by category for that particular department (Table 8). An average of costs per department was calculated because there were a varying number of searches conducted by department in the 2001-2002 academic year. By viewing Table 8, one can compare departments on their average costs of spending on the recruitment and selection process for searches.

Table 9 represents the percentage of money spent on each recruitment and selection category by department. By viewing Table 9, one can compare the percentage of money spent by a department for a recruitment and selection category by another department's percentage of spending in the same category. It is important to remember that not all of the UW-Stout departments are represented in Table 8 and Table 9. Only those departments who conducted unclassified searches in the 2001-2002 academic year, *and* participated in this research are represented.

Table 8: Average Costs for 2001-2002 Unclassified Searches by Department							
Department	Recruitment Techniques	Telephone Interviews	Campus Interviews	Testing	Credential Verification	Relocation	Search
Learning & Technology Services	\$834.42	\$5.30	\$0.00	\$0.00	\$1.50	0.00	\$841.22
Biology	\$568.75	\$4.50	\$690.00	\$0.00	\$1.50	\$0.00	\$1,264.75
English & Philosophy	\$476.20	\$11.72	\$2,034.87	\$0.00	\$1.97	\$1,200.00	\$3,724.78
Math, Statistics, & Computer Science	\$788.00	\$10.50	\$1,547.40	\$0.00	\$0.00	\$1,440.00	\$3,843.90
Social Science	\$822.05	\$11.08	\$2,231.53	\$0.00	\$4.40	\$600.00	\$3,719.91
Speech, Foreign Lang., Theater, and Music	\$931.00	\$10.00	\$632.90	\$0.00	\$0.00	\$0.00	\$1573.90
ESCSP	\$1,296.55	\$6.75	\$539.51	\$0.00	\$0.00	\$0.00	\$1892.81
Stout Rehabilitation Institute	\$603.96	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$603.96
CET	\$2,071.89	\$6.50	\$877.20	\$0.00	\$4.25	\$0.00	\$2959.84
STTI	\$810.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$810.00
Industrial Management	\$250.00	\$10.15	\$793.84	\$0.00	\$0.00	\$0.00	\$1,053.99
Student Support Services	\$1,004.62	\$8.75	\$2,305.19	\$0.00	\$6.00	\$1,000.00	\$4,324.56
Student Center	\$3,057.00	\$13.50	\$1,059.00	\$0.00	\$5.25	\$5,585.53	\$9,720.28
Residence Life	\$1,804.50	\$21.75	\$1,225.50	\$0.00	\$3.75	\$0.00	\$3,056.50
University Dining Services	\$2,912.83	\$0.00	\$0.00	\$0.00	\$0.50	\$0.00	\$2,913.33

Table 9: Percentage of Costs for 2001-2002 Unclassified Searches by Department							
Department	Recruitment Techniques	Telephone Interviews	Campus Interviews	Testing	Credential Verification	Relocation	Other
Learning & Technology Services	98%	1%	0%	0%	1%	0%	0%
Biology	43%	1%	54%	0%	1%	0%	0%
English & Philosophy	13%	1%	54%	0%	1%	31%	0%
Math, Statistics, & Computer Science	21%	1%	39%	0%	0%	37%	2%
Social Science	22%	1%	60%	0%	1%	15%	1%
Speech, Foreign Lang., Theater, and Music	59%	1%	40%	0%	0%	0%	0%
ESCSP	67%	1%	29%	0%	0%	0%	3%
Stout Vocational Rehabilitation Institute	100%	0%	0%	0%	0%	0%	0%
CET	69%	1%	29%	0%	1%	0%	0%
STTI	100%	0%	0%	0%	0%	0%	0%
Industrial Management	24%	1%	75%	0%	0%	0%	0%
Student Support Services	23%	1%	53%	0%	0%	23%	0%
Student Center	30%	1%	10%	0%	1%	58%	0%
Residence Life	58%	1%	40%	0%	1%	0%	0%
University Dining Services	100%	0%	0%	0%	<1%	0%	0%

Additional Data. The additional data retrieved from the EOAA applicant tracking database for the 26 report requests (unclassified searches) that were returned are indicated in Table 10.

Table 10: Additional Data for the 26 Searches Represented in the 2001-2002 Cost Analysis		
“Of 26 Searches”	Number	Percentage
Total Applicants	604	100%
Female Applicants	243	40%
Male Applicants	361	60%
Minority Applicants	163	27%
Total Hires	22	100%
Female Hires	14	64%
Male Hires	8	36%
Minority Hires	5	23%
Successful Searches	18	
Unsuccessful Searches	8	
Faculty Searches	14	54%
Academic Staff Searches	12	46%

CHAPTER FIVE

Discussion

Baseline of Costs Determined. The results from the cost analysis established a baseline of average costs per each part of the recruitment and selection process for a successful, unsuccessful, faculty, and academic staff unclassified search. The establishment of this baseline is important in that it may be used to make comparisons with unclassified search costs of future years. These comparisons could be made by tracking the costs of unclassified searches over a number of years and creating a trend of the recruitment and selection costs by department and position. When analyzed, the trend data could be used to make comparisons between similar positions to see which recruitment and selection techniques have been most effective and efficient in attracting applicants for that position and in making a hire for that position. Comparisons could also be made between departments to see which departments are making the most effective and efficient decisions concerning recruitment and selection techniques. The EOAA office could use this information to guide search committees in making the best decisions on how to recruit and selection throughout their search.

Suggested Spending Model for Searches. Though the trend analysis of recruitment and selection costs will be beneficial in improving the effectiveness of procedures in the long-term, the analysis of the 2001-2002 unclassified searches gave an immediate view of how costs seem to be affecting search outcomes.

It is important to take into consideration that the conclusions drawn from this research are only applicable to the small sample of unclassified searches studied for this project and are only in relation to the recruitment and selection goals of the UW-Stout

EOAA Office. If this study had employed the goals of individual departments, the conclusions drawn could be vastly different because different departments have different goals related to the recruitment and selection of their employees. For example, for a department the success of hire may not only depend on a search making a hire, it also may depend on the productivity of the hire and whether the hire is retained. If conclusions were to be made on the most effective use of resources for an unclassified search by department, such factors as employee turnover, retention, and budget allotment would have to be included in the data collection and analysis.

Another matter to take into consideration is the difference between recruiting for a faculty position and an academic staff position. There are also different goals for different departments related to recruiting and selecting a person for a faculty position and for an academic staff position. For example the targeted advertising media for a faculty position may be professional journals whereas the targeted advertising media for an academic staff position may be newspapers. Also, campus interview costs for faculty positions may be more costly due to more candidates coming from all over the U.S. and perhaps from other countries. Whereas campus interview costs for academic staff positions may be less due to more candidates being local. These possible differences are important to keep in mind when reviewing the conclusions of this research as the conclusions do not specify between the most effective academic staff search and the most effective faculty search. Instead, the conclusions lump this information together to target the most effective “search” based on the research of this specific sample.

Based on the data collected from this particular sample of unclassified searches, one search out of the 26 searches was targeted as being the most effective in reaching all

of the goals, simultaneously, of the EOAA office (not of the departments individual goals) for the recruitment and selection process. This targeted search spent only \$ 568.75 on recruitment costs. This search suggests that advertising in professional journals and networking through personal contacts are the most effective and efficient means of attracting an adequate and diverse applicant pool for an unclassified position. This search attracted 20 applicants of which 9 were female, 11 were male, and 3 were minorities. The diversity of this applicant pool proved to be the second most balanced out of all of the other searches accessed. This search was also successful in making a hire. The total amount spent on this search was \$1,264.75.

It is important to realize that this targeted search was not the least expensive search, it did not have the least expensive recruitment techniques, it did not have the most women applicants or the most minority applicants, and it was not the only search to make a hire. But, this search was effective financially at fulfilling *all* of the goals mentioned by the UW-Stout EOAA Office's unclassified recruitment and selection process based on the comparison of the costs and applicant pools of the 26 searches that were accessed.

It is possible that the recruitment and selection techniques used by this search could be used by the EOAA office as guidelines for other unclassified searches in reaching recruitment and selection goals of the EOAA office until further searches are accessed in later years.

Recommendations for Successful Searches. Another important outcome of this study was that unsuccessful searches cost an average of \$1,600.00 per search. This means over \$13,000.00 was spent on unsuccessful searches for the 2001-2002 academic year. This indicates that money is being wasted on the recruitment and selection process for

searches that are not amounting to a hire. In order to keep from having such an expense for unsuccessful searches, it is recommended that a continuation of the assessment of costs associated with the recruitment and selection process should take place. It is suggested that the trend study mentioned above be carried out by the EOAA office in order to target what techniques are most effective and efficient for the recruitment and selection of similar faculty and staff. Knowing how to effectively spend money for a search and what processes are most effective in ensuring a successful search will save the university from wasting money on unsuccessful searches and will guarantee them a hire.

Based on the comparisons of successful and unsuccessful searches the largest cost difference between successful and unsuccessful searches was that successful searches appeared to spend more money on advertising in publications and professional journals. Unsuccessful searches spent more money on advertising in newspapers and through internet job sites. It may be that searches who advertise in publications and professional journals are attracting more applicants that are qualified for the position they are searching for than searches who do not advertise in these media. Based on this information it was recommended to the EOAA office that a possibility for ensuring that a search is successful may be for them to encourage future search committees to increase the amount of money spent on advertising in publications and professional journals. If it is not possible to increase the money spent on advertising for a search, it would be recommended that the *majority* of money spent on advertising go to publications and professional journals.

Other differences in spending between successful and unsuccessful searches included money spent on the campus interviews, credential verification, and relocation.

According to the sample data, the average on-campus interview cost for a successful search (\$1,284.68) was almost twice the average cost of on-campus interviews for an unsuccessful search (\$598.52). The reason for this difference may be due to the fact that only 5 unsuccessful searches even had on-campus interview costs in comparison to the 14 successful searches that had on-campus interview costs. This leads to the thought that either the majority of unsuccessful searches did not reach the on-campus interview process in their recruitment and selection process, or that they reached this process and did not spend money on interviewing candidates. If the latter is the case, then it may be important to take into consideration that the majority of searches that do spend money on the on-campus interview process for their candidates end up being successful searches.

Again, in the credential verification phase of the recruitment and selection process, unsuccessful search costs fall short of even nearing to match successful search costs. The average successful search credential verification cost is 100% more than that of an unsuccessful search. This is due to the fact that none of the unsuccessful searches had credential verification costs. This implies that the unsuccessful searches did not reach this point in the recruitment and selection process, or did not spend any money on the credential verification phase.

Relocation cost data also points out that the average cost of a successful search was 100% more than that of an unsuccessful search. There were no unsuccessful searches with relocation costs. So again, either the unclassified searches did not reach this part of the recruitment and selection process, or they did not spend any money on this relocation.

If it is the case that the majority of unsuccessful searches are not reaching past the points of the recruitment phase and the telephone interview phase, at least there is the possibility that those conducting the searches realized that the search was going to be unsuccessful and aborted the search early to avoid further costs and wasted resources. But, it is important for the EOAA office and departments to find the means by which to ensure that searches may potentially always be successful, therefore also effectively spending resources on the recruitment phase of the recruitment and selection process.

Recommendations for Recruitment Spending. Outcomes related to applicants and cost indicated that the costs of the current recruitment techniques used by UW-Stout do not seem to increase or decrease the number of applicants or the diversity of the applicant pool for unclassified searches. This result is not helpful in aiding the EOAA office in determining the best way for searches to ensure the adequacy of the amount of applicants or the diversity of applicants. Therefore, it is recommended to the EOAA office that it may be beneficial to conduct further research into what specific advertising methods/media not being used by UW-Stout would be most cost-effective in attracting an exceptional number of applicants and in diversifying the pool for UW-Stout searches. It is also recommended that the costs of the current recruitment techniques used by searches continue to be accessed to see if any differences may be targeted with a larger sample of searches.

It is important to remember that this research is based on a field test of a cost effectiveness analysis survey designed for UW-Stout's recruitment and selection process. The results of this cost analysis are only representative of one academic year, and it may be premature to base solid conclusions relating to the effectiveness of spending on this

one, small sample of 26 searches. There may have been specific problems in individual search processes that the researcher is not aware of that may have caused some searches to be unsuccessful. If future searches are assessed using the same instrument, then future searches may be compared to the searches used in this report. And, therefore a larger sample will be available to generalize conclusions based on costs.

Report of Findings. An unclassified search cost analysis report was prepared after analyses were interpreted. This report consisted of 1) an executive summary of the findings of the cost analyses, 2) recommendations regarding the findings of the cost analysis, 3) the methodology of the cost analysis research, 4) a thorough explanation of all analyses conducted and their interpretations, 5) tables and figures depicting cost analyses findings, 6) individual department search cost information, and 7) a sample of the report request. This report was given to all those department chairs that participated in the cost analysis research, deans, as well as the chancellor and the provost. The report is available to any interested UW-Stout employee through the EOAA website.

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APPENDIX I

Please take a few moments to answer the following questions concerning the approximate costs associated with the recruitment search that is indicated on this questionnaire.

Please **DO NOT** use a range to indicate costs (*ex. \$150-\$200*). Please **DO** use a complete dollar amount if known (*ex. \$150.23*), or an approximate dollar amount (*ex. \$150.00*) if a complete dollar amount is not known.

Search PIN Number _____	Position Title _____
<input type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful	

- 1) *The advertising publications that you indicated in the ES 1 Form have been checked below. Please indicate the costs for these advertisements and any others that you used in this search.*

PUBLICATION/PROFESSIONAL JOURNAL (*paper and/or web version*)

<input type="checkbox"/> Asian Pages	\$ _____
<input type="checkbox"/> Black Issues in Higher Education	\$ _____
<input type="checkbox"/> The Chronicle of Higher Education	\$ _____
<input type="checkbox"/> Hispanic Outlook in Higher Education	\$ _____
<input type="checkbox"/> News From Indian Country	\$ _____
<input type="checkbox"/> Women in Higher Education	\$ _____
<input type="checkbox"/> Newspaper, please list _____	\$ _____
<input type="checkbox"/> Other publication _____	\$ _____
<input type="checkbox"/> Other publication _____	\$ _____
<input type="checkbox"/> Other publication _____	\$ _____

POSTINGS ON INTERNET JOB SITES (*please list, if any*)

(*ex: imdiversity.com; chippewavalleyhelpwanted.com*)

<input type="checkbox"/> _____	\$ _____
<input type="checkbox"/> _____	\$ _____
<input type="checkbox"/> _____	\$ _____

NETWORKING

(*please indicate a total cost for travel, lodging, dining, participation fee, etc.*)

<input type="checkbox"/> An on-site or off-site Job Fair	\$ _____
<input type="checkbox"/> An on-site or off-site College Recruitment Fair	\$ _____
<input type="checkbox"/> An on-site or off-site conference	\$ _____

please continue...

OTHER ADVERTISING APPROACHES (*please list, if any*)

<input type="checkbox"/> _____	\$ _____
<input type="checkbox"/> _____	\$ _____
<input type="checkbox"/> _____	\$ _____

- 2) *Please indicate the total minutes of long distance telephone used during the TELEPHONE INTERVIEWS for this search.*
(You conducted ____ telephone interviews.)

<input type="checkbox"/> Long Distance Telephone Interview	_____ minutes
<input type="checkbox"/> No Long Distance Telephone Interviews	

- 3) *Please indicate any and all of the COSTS associated with the CANDIDATES that you brought on campus for this search.* (You brought ____ candidates to campus.)

<input type="checkbox"/> Travel	\$ _____
<input type="checkbox"/> Lodging	\$ _____
<input type="checkbox"/> Dining	\$ _____
<input type="checkbox"/> Entertainment	\$ _____
<input type="checkbox"/> No Costs	

- 4) *Please check any and all types of testing used during the interview process for this search and the COSTS of the testing.*

<input type="checkbox"/> Job Skill Testing	\$ _____
<input type="checkbox"/> Psychological Testing	\$ _____
<input type="checkbox"/> Behavioral Testing	\$ _____
<input type="checkbox"/> Other Testing _____	\$ _____
<input type="checkbox"/> No testing was conducted	

- 5) *Please check any and all of the Credential Verification COSTS associated with this search.*

<input type="checkbox"/> Long distance telephone calls to check references (<i>please indicate total minutes of long distance phone time for search</i>)	_____ minutes
<input type="checkbox"/> Drug Screening Tests	\$ _____
<input type="checkbox"/> Other verification _____	\$ _____

- 6) *Please indicate any RELOCATION COSTS associated with filling this search.*

<input type="checkbox"/> Relocation	\$ _____
<input type="checkbox"/> No Relocation Costs	

- 7) *Please indicate any OTHER COSTS that were encountered while attempting to fill this search that you incurred.*

<input type="checkbox"/> _____	\$ _____
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